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THE SUGAR BULLETIN

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icial Bulletin of the American Sugar Cane League of the U. S. A.

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Published on the First and Fifteenth of each month
in the interests of the Domestic Sugar Cane Industry

THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

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We stand for the encouragement of Home Industries as against Foreign Competition

UP FRONT WITH THE LEAGUE

by A. W. Dykers

Flash — Fair and reasonable wage rates for harvesting the 1958 crop and cultivating the 1959 crop are *unchanged* from those applicable to the 1957 crop harvest and the 1958 crop cultivation.

Meeting Held

The Thirty-Sixth Annual meeting of the American Sugar Cane League was held at 2 o'clock in the Grand Ball Room of the Roosevelt Hotel, New Orleans, on Thursday, September 25th just like we said it would be and Mr. Bronier Thibaut was re-elected. Also re-elected were the other officers and members of the Executive Committee.

Prior to the Annual Meeting, there was an Annual Awards Luncheon in the Ball Room at which the American Sugar Cane League and Louisiana State University's Agricultural Extension Service co-operated in presenting various cane farmers with awards for producing the highest yields of cane per acre last season in their respective categories and areas. We understand that our co-worker, Lloyd L. Lauden, is listing the names of the award winners in his "In The Field" report.

The high light of the luncheon was a talk by Senator Allen J. Ellender. The Senator who has been in Washington for twenty-four years is a good speaker and a real friend of the Louisiana Sugar Industry. We will print his speech when space permits and are sure you will enjoy every word of it.

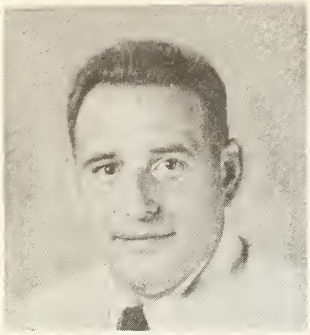
Beginning on page 6 of this issue you will find a copy of the report that President Thibaut made at the Annual Meeting. Here is what he said about the awards. "Before touching on some of the activities of the League during the twelve months under review, I would like to again express my appreciation to the farmers who attended the High Yield Awards Luncheon .... In Winning High Yield Awards these people are pointing the way to more profitable cane production for all of us ...." These words, we believe, adequately express the underlying motive for the high yields awards competition in all farming enterprises. The winners show the way to bigger and better crops, and in so doing improve the economy of the entire industry.

Prices

Last year the season's average price of raw sugar, delivered New Orleans, was 6.1287. The price today is 6.36. The price one year ago was 6.15. There is no question that the present market is strong. Proof is in the fact that it has advanced on sales of Philippine raws which are usually considered to be distress sugars.

The Old Mule is keeping his two hind legs crossed and hoping for the best, however, anything can happen. Mr. Myers seems to have himself convinced that he is doing us a favor by keeping the price of sugar low, because, he says, otherwise, substitute sweeteners will put us out of business. Any day now his compassion could get the upper hand and make him come out with an increase in the quota, and — bang — there will go the

(Continued on page 11)



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

High Yield Award Winners

The Louisiana Agricultural Extension Service and the American Sugar Cane League announced the 1957 crop high cane yield award winner at a luncheon held prior to the League's Annual Meeting on Thursday, September 25 in New Orleans.

The cane belt has been divided into five districts and each district has been sub-divided into five groups for the purpose of selecting the winners. Group I is for farms in the 5 to 49.9 acre class; Group II is for farms of 50 to 99.9 acres; Group III for farms of 100 to 199.9 acres; Group IV for 200 to 499.9 acres; and Group V is for farms of 500 acres or more.

The yields shown for the winners have been supplied by Mr. Denver Loupe, Agronomist, L. S. U. Extension Service, the County Agents in the Sugar belt, and the Agricultural Stabilization and Conservation Parish Committees. This represents time and work and should be recognized.

In addition to producing the highest yield in each group, winners had to produce 20 per cent more than the district's average in order to receive an award. The winners by districts and groups are as follows:

District I: Vermillion, Lafayette & St. Martin Parishes. Average yield for District 15.60 Tons Per Acre; 20% above average 18.7 tons per acre.

Groups:

1. Noah Alexandre, Rt. 1, Box 494, Breaux Bridge, La., St. Martin Parish—6.0A-32.8 tons
2. A. R. Fuselier, Rt. 2, Box 40, St. Martinville, La., St. Martin Parish—74.1A-27.8 tons
3. Bertrand Laperouse, Rt. 2, Box 101, St. Martinville, La., St. Martin Parish—182.0A-25.9 tons
4. Sidney Hebert, Jr., Rt. 1, Box 123, Broussard, La., St. Martin Parish—263.5A-20.9 tons
5. Levert—St. John, Inc., Rt. 1, Box 21, St. Martinville, La., St. Martin Parish—1581.3A-18.7 tons

District II: St. Mary & Iberia Parishes. Average yield for District: 18.87 Tons Per Acre; 20% above average 22.64 Tons Per Acre.

Groups:

1. Otto Dressel, Route A, Box 45, New Iberia, La., Iberia Parish —19.5A-32.2 tons
2. Nicholas Paul, Star Rt. A, Box 59, Franklin, La., St. Mary Parish—95.7A-32.8 tons
3. Oday Rodriguez, St. Mary Parish, Star Rt. B, Box 113, Franklin, La.—179.8A-30.49 tons
4. Harold Junca, Star Rt. B, Box 350, Franklin, La., St. Mary Parish—292.8A-26.93 tons
5. Sterling Sugars, Inc., P. O. Box 572, Franklin, La., St. Mary Parish—3527.5A-23.79 tons.

District III: Assumption, Lafourche & Terrebonne Parishes. Average yield for District: 24.57 Tons Per Acre; 20% above average: 30.48 Tons Per Acre.

Groups:

1. Adam Danos, RFD 1, Box 132, Raceland, La., Lafourche Par-

(Continued on page 10)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Flash — Word is received from Mr. Ferris, just as we go to press, that November 25th is the day on which the USDA will hold the Consumption Estimate Hearing this year. The place is the USDA Auditorium in Washington, D. C.

The International Sugar Conference opened in Geneva, Switzerland September 22nd. The purpose of the conference, held under the auspices of the United Nations, is to revise and extend the present International Sugar Agreement which will expire December 31, 1958. The conference is attended by delegates from forty nations which include the various importing and exporting countries of the world.

Mr. Lawrence Myers, Director of the Sugar Division of the United States Department of Agriculture, head of the United States delegation, in his opening statement, said: — "there has been general satisfaction with the way the sugar agreement has worked during the five years it has been in operation.

"We are, therefore, starting the conference on the assumption that the agreement will be continued, and that the general outline of its program will be substantially unchanged —though there may, of course, be changes of detail."

The conference unanimously elected Mr. Eric Roll of Great Britain, President. Mr. Roll is the executive director of the International Sugar Council.

Mr. Roll told the conference—"if we can reach an agreement which prevents violent fluctuations in the price of sugar it will be in the universal interest of consumers and producers alike and importers and exporters alike."

Dr. Arturo Manas, President of the Cuban Sugar Stabilization Institute and Mr. A. V. Thomas, Deputy Minister of Food for India, were unanimously elected vice-presidents.

Early in the opening session of the conference Japan demanded a revision of the International Sugar Agreement to make it more beneficial to the sugar-importing nations. The Japanese representative Yoshihiro Nakayama, Deputy Director of the Japanese International Trade Bureau, complained that the present agreement favored the exporters more than the importers. He urged the Conference to give the minority of sugar importing nations a veto over all decisions of the conference. He said he would not press for a vote on this proposal immediately but would await developments.

Sir Arthur Fadden of Australia, who opened the general debate said if the new sugar agreement is to be successful, it would have to include all the major sugar exporters without exception.

"It has been the experience with the present agreement that the non-participating exporters gained advantages at the expense of the participating exporters."

PRESIDENT THIBAUT ADDRESSES ANNUAL MEETING

Members of the American Sugar Cane League and our guests.

It is with a great deal of pleasure that I stand before you today to present my annual report.

One year ago, when you selected me to be the nineteenth President of the American Sugar Cane League, you and I, fortunately, had no knowledge of future happenings. We did not know that the crop, which looked so good then, would eventually be reduced about seventeen percent by one of the worst cane grinding seasons in recent years, and I certainly did not know that within a few short weeks I would be flat on my back in Touro Infirmary battling a heart attack. The fact that with God's help, I am here and you are here is in the nature of a personal triumph for each of us and, I repeat, it is a great pleasure to stand before you and present my annual report.

Before touching on some of the activities of the League during the twelve months under review, I would like to again express my appreciation to the farmers who attended the High Yield Awards Luncheon, which, incidentally, I hope all of you enjoyed. In winning High Yield Awards these people are pointing the way to more profitable cane production for all of us and these yearly recognition luncheons are, therefore, very much worthwhile. I am sure that the co-sponsor of the Awards program, the Louisiana State University's Agricultural Extension Service, joins me in this expression of appreciation and also in thanking Senator Ellender for taking time from his busy schedule to come here today to speak to us. We also appreciate the presence of the other members of our Louisiana Congressional delegation who have done such sterling work in Washington for the Louisiana sugar industry.

Back in 1956 when Senators Ellender and Long and Congressmen Willis and Boggs, with the cooperation of all of their Louisiana colleagues, finally won the fight that amended the Sugar Act allowing the domestic sugar producers a share in quota increases, we were hopeful that a gradual increase in the consumption of sugar would bring about a correspondingly gradual increase in our area marketing quota. The amendments have already raised the Mainland Cane Area quota from the fixed 500,000 tons of pre-amendment days to today's quota for Louisiana and Florida to 694,154 tons. A goodly portion of this increase is the result of a short crop in Puerto Rico and the prolonged strike of the Hawaiian sugar workers. We are, of course, sorry that our good fortune resulted from the misfortunes of our friends in Hawaii and Puerto Rico. It must be noted, however, that the amendments to the Sugar Act have allowed us to share in the redistribution of quotas which formerly would have been allocated largely to foreign countries.

We are happy to state that, as a result of the increased marketing quotas, the league was able to get the Sugar Division to agree to a 10% increase in proportionate shares acreage for 1959 with much less trouble than we had in staving off a cut in the 1958 crop acreage.

The Sugar Act expires in 1960 and we have now begun working with representatives of the other areas and our Congressional representatives regarding improvements. Just this morning our Legislative Committee met with members of Congress to exchange ideas on the extension of the Act.

Right here I would like to express my sincere appreciation to the entire Louisiana Congressional Delegation. Each and every member of Congress from Louisiana has always been ready and willing to join in the fight to improve our position under the Sugar Act. It has been a pleasure for the League to join each

ear with organizations represent-
ig other Louisiana industries, under
ie guidance of the Chamber of Com-
erce of the Greater New Orleans
rea, in sponsoring a testimonial
ncheon for our senators and con-
ressmen. The sell-out attendance at
iese affairs is proof positive that
igar is not the only industry that
ppreciates the good work of our
epresentatives in Washington.

Research continues to play a lead-
ig part in our struggle for existence
nd we believe that more and more
rmers are coming to realize its
nportance to our industry. The
eague office has literally been de-
ged during the past few weeks with
equests for the newly release cane
ariety, C.P. 52-68, indicating the
ith of our farmers in the scientific
ne breeding program.

A federal appropriation of $75,000
r sugarcane research work was
lded to the Agricultural Appria-
ons Bill this year when the League
sked Senator Ellender to sponsor
n amendment to the Bill covering
ie funds. This appropriation has
ade it possible to further expand
ie cane breeding and variety selec-
on programs that mean so much to
ur industry.

A new cane breeding house, which
e believe to be the largest in the
orld, is presently under construc-
on at the U. S. D. A. Canal Point
tation and construction of a new
reen house at the U. S. D. A. Houma
ield Station will soon be under way.
ther facilities and additional per-
nnel will be added at the Canal
oint and Houma Stations in the
ear future, thanks to the additional
ederal funds and to contributions
y the American Sugar Cane League.

I think it appropriate to point out
this time that the cane variety pro-
ram is a joint effort of the United
tates Department of Agriculture,
ie Louisiana Agricultural Experi-
ent Station and the American Sug-
r Cane League. A very successful
ne breeding season was conducted
the Canal Point Station this year
ecause of the good work of Mr. Pres-
ton Dunckelman, who joined the U. S. D. A. staff last fall after a number of years of service at L. S. U.

Developing new cane varieties is, of course, only one phase of the vast sugar cane research program being carried on by State and Federal scientists who work on all phases of cane culture and cane milling in their ceaseless efforts to help us to do a better job. The American Sugar Cane League has numerous committees that work with these scientists on their research projects and our industry is indebted to many individuals who cooperate in carrying out research projects on their farms and in their factories that benefit all of us.

Control of the stunting disease by the heat-treating method continued to make progress during the year under review and there are now about eighty seed treating ovens in operation in the Louisiana sugar district. One significant development in this connection was the entry of a farmer of the Jeanerette area into the heat-treated seed cane business. Mr. Rodney Banta of Jeanerette, has installed four ovens on his place and in 1959 he expects to have plenty of first progeny multiple heat-treated seed cane for sale to growers who do not own a heat-treating unit.

A new research project has been initiated by the recently formed Trash and Cane Handling Committee in cooperation with some of the processors and the Cary Iron Works, of Opelousas, La. This project is an experimental cane combine which is presently under construction and will be tested during the approaching harvesting season. The combine is designed to cut, clean and load cane in one operation. The Trash and Cane Handling Committee has also brought to the attention of the industry, a lightweight harvester developed by Mr. George Powers of New Roads, La. This harvester is now in production and will be used in the cane fields this fall.

In this connection, we have been

(Continued on next page)

particularly pleased with the improvements that the cane harvester manufacturers have made in their machines in recent years. The pick-up attachments for handling lodged canes have been of great benefit, not only as time and money savers, but also because the ability to pick up lodged cane could lead to increased cane tonnage production per acre as the heavier tonnage canes all seem to have a tendency to fall down.

While on the subject of research, it is noted that we still do not have an effective method of controlling our newest enemy in the cane fields, the nutria rat. During the year we signed a memorandum of agreement with the U. S. Fish and Wildlife Service, under which experiments are being conducted to find a practical means of controlling this pest, but, so far, the nutria has been too smart for us. We are still working on the problem.

The American Sugar Cane League is very grateful to the Honorable Sidney McCrory, Louisiana Commissioner of Agriculture for all the help he has given us in our efforts to convince the Louisiana Wildlife and Fisheries Commission that the nutria is a real threat to the Louisiana sugar cane farmer.

The control of crop destroying insects is an essential part of every farming operation. The chemical "endrin" seems to be doing a good job in controlling the cane borer this year and we are hopeful that damage by this pest will be materially reduced this year and in the years to come.

Were it not for poisons such as "endrin", practically all farm crops would be devoured by crop eating pests. The fact that their use results in some local poisoning of a few fish and birds is regrettable, but certainly of little consequence in the overall economy of our State.

During the past year the League helped finance a second test to determine the value of raw sugar in swine rations. The tests were conducted by the L. S. U. Animal Industry Department. It showed tha swine make good growth on ration containing as much as fifty percen raw sugar. It was also noted, how ever, that sugar cannot compete wit other swine feed stuffs at presen prices.

Research is the basic foundatio of the Louisiana sugar industry. I we stopped all research, we woul soon go out of business. If we in crease the amount of research, w will become more prosperous, bu sponsoring good research program is not all the League has done dur ing the past year.

Reductions in rail freight rates o raw sugar which go into effect thi fall will result in freight savings t the industry of hundreds of thou sands of dollars. The reductions i rates are the result of continued ef forts by the League's Freight Rat Committee, formerly headed by Her bert Vaccaro and now under the abl guidance of Lucien Bauduc, workin with the League's attorney and th New Orleans Traffic and Transpor tation Bureau.

Stages in the Mississippi River an its tributaries this past winter in dicated there was a possibility of major flood affecting the sugar in dustry. Mr. Elliott Jones, Chairma of the League's Flood Control Com mittee, kept in close touch with th situation through continuous contac with the U. S. Army Engineers an the Atchafalaya Levee Board. Plan were made for the League to play it part in the event a high water figh became necessary. Fortunately, th flood did not materialize. I want t add here that Mr. Jones has bee very diligent in keeping the nee for flood control before the Unite States Army Corps of Engineer State levee boards, the State De partment of Public Works and ou congressmen and senators. It is note that there were substantial increas in Federal funds for flood contr voted by the last Congress and fo this we are again indebted to the Co gressional Delegation from Louis ana.

This year, for the second time in cent years, our Raw Sugar Com- ittee met to discuss mutual prob- ns with the refiners who purchase uisiana raws. We feel that a bet- r understanding between the pro- ssors and refiners results from ese meetings and hope that they ll be continued in the years that ahead.

The League agreed this year to sume its contribution in support of e Louisiana Sugar Cane Festival d Fair Association.

During the last session of the Lou- ana State Legislature, we reaf- rmed our belief in the right-to-work leading the fight for a Right-To- ork Bill. Unfortunately, the legis- tion was defeated, but it will un- ubtedly remain a major issue for ture legislatures.

Last fall, in cooperation with other eas producing blackstrap molasses, e were successful in getting the As- ciation of American Feed Control fficials to rescind a new definition blackstrap molasses which would ve prevented the sale of much ackstrap molasses in Louisiana and sewhere. We cite this development an example of how necessary it to keep constant vigil in these com- icated times. It is, of course, hard understand why the feed control fficials would write a definition of ackstrap molasses that would auto- atically eliminate the Louisiana oduction, but it happened and ould have had very serious conse- uences had the League not taken eps to block the move. Processors nd farmers alike share in the sale of ackstrap molasses.

In the public relations field we ave continued to keep our fences ended with other related groups nd with the public in general. In ddition to using television, the ra- o and the newspapers to dissimi- ate information about the Louisiana ugar industry, League spokesmen ave frequently appeared before roups in cities and towns and on ne farms. Lloyd Lauden, the League's Field Representative and Agronomist, has been particularly effective in his contacts with the producers throughout the sugar territory. The League's Executive Committee appreciates the opportunity afforded Lloyd by the County Agents to appear on their field day programs and also greatly appreciates the excellent cooperation it has enjoyed from the newspapers in New Orleans and the sugar cane growing area.

It is very gratifying to me, as I am sure it is to every other member, to know that the American Sugar Cane League is, and has been for thirty-six years, a highly respected organization. This is true not only in Louisiana and the rest of the United States, but throughout the entire sugar producing world.

Credit for our enviable reputation is shared by the personnel of our New Orleans and Washington offices, by our very able attorney, by the chairmen and members of the many League committees, and last, but by no means least, by every member of the American Sugar Cane League. I, of course, am highly honored to have served as your President.

I do not think I should close this report without saying a little something about the price of raw sugar which today is approximately the same as it was when Government price controls were removed after World War II. Since the base period of 1947-1949, the Consumers' Price Index, the price criterion used in the Sugar Act, has gone up 23.7% The Crop Reporting Board of the United States Department of Agriculture reports in its August Issue of "Agricultural Prices" that since the 1947-49 period, prices paid by farmers for clothing have advanced 14% home building materials 20%, for motor vehicles 44%, for farm machinery 56%, for building and fencing materials 32% and for farm real estate taxes 74%. The overall rise in prices paid for commodities and services, interest, taxes and wage

(Continued on next page)

RAYMOND BOUDREAUX, of St. Martinville, La., winner of the first annual 4-H Club sugar cane contest, is congratulated by Gilbert Durbin, General Manager of the American Sugar Cane League, when they met just prior to the Annual Awards Luncheon in New Orleans on September 25th. The League will co-sponsor a trip by Raymond to Chicago.

ADDRESS

rates is 22%. We also see from another Government publication that medical care is 143.9% of the 1947-49 average and a recent issue of U. S. News and World Report points out that since 1950 the price of steel has gone up $47.00 a ton which is 61%. Just why the administrators of the Sugar Act persist in keeping the price of sugar at or below pre-inflation levels is extremely difficult to comprehend. If the Sugar Act were administered according to the formula adopted by the Congress and signed by the President, the price of raw sugar today would be $6.91 a hundred pounds; we wonder why it isn't.

Thank you very much.

———o———

IN THE FIELD

(Continued from page 4)

ish—7.7A-48.8 tons

2. Leon Trahan, Jr., Rt. 1, Houma, Louisiana, Terrebonne Parish 57.1A-37.21 tons

3. Andras Bros., RFD 1, Box 404, Thibodaux, La., Lafourche Parish—186.0A-32.5 tons

4. Mitchell P. Brien, Rt. 1, Houma, Louisiana, Terrebonne Parish 207.0A-34.38 tons

District IV: West Baton Rouge, A scension, St. James, St. John, S Charles & Iberville Parishes. Averag yield for District: 23.19 Tons Pe Acre: 20% above average 27.83 Ton Per Acre

Groups:

1. Marie D. LeBlanc & Sons, R 1, Box 546, White Castle, La., Ibe ville Parish—29.6A-37.4 tons

2. Alvin B. Daigle, Rt. 1, Bo 616, White Castle, La., Ibervil Parish—61.3A-38.9 tons

3. Webre & Becnel — Edgar La., St. John Parish—114.3A-35 85 tons

4. F. H. Carruth, Jr., Lobde La., West Baton Rouge Parish- 470.0A-35.15 tons

5. Poplar Grove Planting & R fining Co., Inc., Port Allen, La West Baton Rouge Parish—856.1 -31.14 tons

District V: Rapides, Avoyelles, Point Coupee, St. Landry & West Feliciar Parishes. Average yield for District 21.65 Tons Per Acre; 20% above a erage 25.98 Tons Per Acre

Groups:

1. Thomas Jarreau, Oscar, La Pointe Coupee Parish—20.7A-36 tons

SUGAR MARKET STATISTICS THROUGH SEPT. 25, 1958

	Today	1 Month Ago	1 Year Ago
QUOTA RAWS DELIVERED NEW YORK	6.40	6.35	6.17
QUOTA RAWS DELIVERED NEW ORLEANS	6.36	6.32	6.10
RESIDUAL SPOT RAWS (In Cuba)	3.48	3.50	4.45

SUGAR FUTURES No. 6
(Closing Bid Prices)

	Nov.	Mch.	May	July
Today	5.87	5.67	5.73	5.76
1 Month Ago	5.81	5.64	5.66	5.73
1 Year Ago	5.64	5.44	5.49	5.55

OFFSHORE RECEIPTS AT NEW ORLEANS
(Long Tons, 2,240 lbs.)

	Aug. 25-Sept. 25 1958	Aug. 25-Sept. 25 1957	Jan. 1-Sept. 25 1958	Jan. 1-Sept. 25 1957
American	50,568	42,883	369,154	310,685
National (Godchaux)	18,828	14,501	152,185	145,614
Colonial	18,676	14,214	139,034	136,150
Henderson	11,158	11,874	93,330	95,956
Southdown	5,726	None	39,726	34,546
South Coast	10,666	7,455	63,059	52,995
Supreme	14,861	11,083	116,234	92,981
Totals	130,483	102,010	972,722	868,927

2. L. G. Crochet & Provesty, Labarre, La., Pointe Coupee Parish—90.0A-26.0 tons

3. Frank Davis, Valverda, La., Pointe Coupee Parish — 134.6A-26.5 tons

4. J. G. Beaud, Rt. 2, New Roads, La., Pointe Coupee Parish 250.3A-32.8 tons

—o—

P FRONT

(Continued from page 3)

rice. Let's all join the old mule and ross something. He needs all the elp he can get.

Sugar Exchange Reports

"At the Sugar Exchange we are etting ready for another pricing eason." So stated the writer the her day when the Bank for Coperatives made a horrible mistake nd asked him to substitute on a rogram for Mr. Durbin. We connued with:

Mr. Farwell has appointed his comittees, we have fixed up our new eporting forms and bought a lot f those very expensive three cent post cards (20,000 to be exact) and a few more thousand of the even more expensive air mail variety. A big apothecary bottle of "milltowns" is ready for the center table and, I believe, we are all set to go. We don't know for sure, but the chances are the pricing period will start on Friday, October 10th and end on the last Thursday in February which is February 26th.

The members of our Raw Sugar Quotation Committee this year are Sedgwick Howard, of the National Sugar Refinery, who is the Chairman; R. M. Cockburn, of the American; Louis LeBourgeois, of LeBourgeois Brokerage; John B. Levert, of Levert-St. John; Chas. A. Levy, of J. Aron & Co.; Earl B. Wilson, of Sterling Sugars, Inc., and one of the distinguished Graugnard brothers, James, of St. James, La.

The rules to be used by the Committee this season have been changed a little, but not enough to make any difference except to the members of

(Continued on next page)

the Committee. Southdown, South Coast, and Supreme have been added to the list of refiners required to report purchases of Louisiana raws in the spot position and the Committee has been authorized by the Board of Directors of the Exchange to disregard any spot sales to local refiners that are obviously out of line with the value of raw sugar delivered New Orleans.

These changes were recommended by a special committee appointed by Mr. Farwell to study the matter. The Exchange is constantly trying to do a better job of quoting the market.

Our Blackstrap Molasses Committee is again headed by Bascom Doyle, of Pacific Molasses Co. and working with him will be Charles F. Gibbins, of the Barry Sales & Distributing Co.; John Manard, of the Manard Molasses Co.; Sidney J. Menard, of South Coast; and H. C. Vaccaro, of Southdown.

Our blackstrap quotation rules worked very satisfactorily last season and no changes in the rules are contemplated. The provision adopted last year allowing our office, if asked, to report the existence of sales anytime during the day has proved very helpful to both the buyers and sellers of Louisiana blackstrap molasses.

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THE SUGAR BULLETIN

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in the interests of the Domestic Sugar Cane Industry

THE SUGAR BULLETIN

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Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

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UP FRONT WITH THE LEAGUE

by A. W. Dykers

Predictions

It has happened to me hundreds of times. All I have to do to change the picture is to do a little predicting like, for instance, when I said the other day that when the Sugar Division increased the quota "bang—there would go the price."

The printer's ink recording this bit of market experting for posterity was barely dry when Mr. Myers increased quotas by a hundred thousand tons. Instead of stumbling and falling on his face like we thought he would, the Old Mule took a toehold and stayed put. The price of raw sugar in New York has remained unchanged at $6.45 a hundred pounds since the increase and the Louisiana quotation is unchanged at $6.41.

Before anybody, and especially the boss, jumps to conclusions about a guy like me being a menace to society, I would like to point out that this gift of being able to predict things exactly backwards, if properly cultivated, could make for a lot of prosperity. On page 22 of this issue we are printing the official announcement of the increase in quotas to 9,100,000 tons. I still believe that the increase was a move to control the market and that it eventually will result in a lower price for sugar. If I am wrong again, it will be a pleasure.

Flash October 14 — Quotas increased another 100,000 tons today.

Season Begins

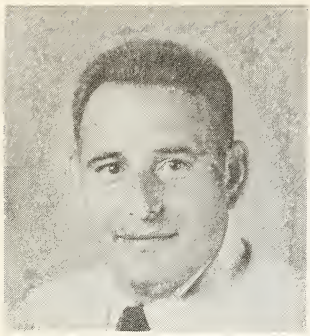
Also in this issue, starting on page 18, will be found the Fair Price Determination for the 1958-59 crop. From this it will be seen that the pricing period this season began on October 10th 1958 and will end on the last Thursday in February 1959, which is February 26th. The dates apply to both raw sugar and blackstrap molasses. The pricing period corresponds to that of last season and will run for twenty weeks.

Perhaps it will be interesting to compare the situation, pricewise, this year with the start of the pricing period last year. On October 10th of this year the New Orleans quotation on raw sugar was 6.41. The New Orleans quotation on raw sugar at the start of last season was 6.15. From this comparison it will be seen that the price of raws today is 26 points better than at the start of the 1957-58 pricing period.

The Louisiana Sugar Exchange has not issued a quotation on Blackstrap molasses up to this writing on October 13th because no spot sales of new crop Louisiana blackstrap have been recorded. Perhaps we may glean a little information regarding the value of this product by comparing the price that the Government says the New Orleans dealers are selling it to the feed trade for this year with the same price at the start of the 1957-58 pricing period.

The latest Government quoted price of blackstrap at New Orleans this year to the feed trade is 13¾ cents to 14 cents a gallon with quotations mostly at 14 cents. The corresponding quotation last year was 14 to 14¾ cents with quotations mostly

(Continued on page 21)



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

Endrin to Control the Borer

There has been much talk during this crop about endrin, the new chemical to control the sugar cane borer. The entomologists of both L. S. U. and the U. S. D. A. Stations who work on nothing else other than sugar cane insects, strongly recommended that cane growers use endrin this year to control the borer.

Many growers followed the recommendation of the Experiment Stations' entomologists almost to the letter. Several growers started dusting with another product then later changed to endrin. Also, as would be expected, many growers decided to wait another year before changing over to endrin. It is to these growers that this article is directed.

It is true that the scientists who worked with the new chemical, endrin, would have preferred more tests before making a recommendation, but the data available at the time appeared so good that it justified a confident recommendation.

The entomologists of L. S. U. and the U. S. D. A. have many tests in the field this year. Even though these tests have not yet been harvested, preliminary information and observations show that endrin has done an excellent job of controlling borers.

Even though the results of these tests will be published later in The Sugar Bulletin, it is suggested that growers take it upon themselves now to visit one or more farms where endrin was used this year. I this will be done, no further com ments are necessary. The fields wil speak for themselves.

But for those who will not hav an opportunity to visit a farm wher endrin was used, several comment are in order. The most strikin observation is the uniformity i height of every stalk in the stool all stalks are millable. The nex factor which catches the eye is th almost complete lack of latera shoots on the standing cane an the complete absence of late suckers Not to see brownish yellow, bore riddled stools scattered here an there is most impressive. The las observation will be the lack of bor ers. A very careful inspection wil reveal only a very few borers, an in general the very few will be i the tops of the cane. To see this i really impressive, but seeing hov much better cane looks when it i not riddled with borers is really th eye opener.

A few errors were made whil applying endrin during the earl part of the season this year. A fe fish were killed in plantation canal and ponds, but when pilots were again cautioned to close hopper over canals and ponds or skirt these areas, this problem corrected itself

The writer strongly suggests tha any grower who has had a bore problem in the past take the time t visit a farm where endrin has beer used.

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Cuban sugar producers are apprensive for their mills and sugar ane because of increased guerilla ctivity on the island.

According to newspapers, rebel eader Fidel Castro's men have virually cut Cuba in two by severing ail and highway communication beween Havana and Santiago. Practically all trade has ceased between antiago, in eastern most Oriente rovince, and Havana. Destruction f railroad bridges during the past n days has stopped the flow of ssential raw materials to industrial lants as far west as Sancti Speriis, in Los Villas Province. Reconruction of the sabbotaged bridges nd rail lines is prevented by rebel nipers, who shoot reconstruction orkers and repair men. The railays are refusing to accept any reight, and trucking companies are ccepting only a small fraction of heir usual business.

The rebels have destroyed twentyhree modern air conditioned buses f La Cubana, one of Cuba's largest us lines which operates a regular cheduled passenger service between Iavana and Santiago. The line has een forced to suspend operations.

Last year Castro threatened to estroy Cuba's sugar industry by urning the sugar cane and blowing p the mills, but because of his imited forces he was unable to acomplish his purpose, although he id burn about a million tons of ugar cane, and damaged several nills. Now, that he has much largr forces under his command and pparently is in full control of some of the richest and most productive provinces of that country, he is in a much better position to make good his threat to stop all sugar production until President Batista has been overthrown.

President Batista, who announced that he is not a candidate to succeed himself, has called for a national election on the third of November.

Batista said he wants the election to be fair and square, but with a number of provinces wholly controlled by Castro, there is grave doubt about the fairness of the election, especially when the overwhelming majority of Cubans do not favor either the party headed by President Batista, or the rebel party of guerilla Castro. Unfortunately they seem to have no choice other than between the Devil and the deep blue waters of the sea.

The decision of a Federal judge is providing an interesting topic of conversation in Washington. The question was not segregation versus integration, but whether the whole system of government allotments for farmers will be outlawed.

Federal Judge T. Whitefield Davidson in Dallas, Texas, ruled against the Federal government which was suing a father and son for $506.11 for raising 43 acres of wheat without an allotment from the Department or Agriculture. The 43 acres was 13 acres over the 30 acres which are exempt under the government's wheat program. The defendants raised the wheat on their own Okla-

(Continued on page 23)

1958-59 FAIR PRICE DETERMINATION

TITLE 7—AGRICULTURE
Chapter VIII—Commodity Stabilization Service (Sugar) Department of Agriculture
Subchapter I — Determination of Prices
(Sugar Determination 874.11)
PART 874—PRICES: SUGARCANE: LOUISIANA
1958 CROP

Pursuant to the provisions of section 301 (c) (2) of the Sugar Act of 1948, as amended (herein referred to as "act"), after investigation, and due consideration of the evidence presented at the public hearing held in Thibodaux, Louisiana, on July 24, 1958, the following determination is hereby issued:

§ 874.11 *Fair and reasonable prices for the 1958 crop of Louisiana sugarcane.* A producer of sugarcane in Louisiana who is also a processor of sugarcane (herein referred to as "processor") shall have paid or contracted to pay, for sugarcane of the 1958 crop grown by other producers and processed by him, in accordance with the following requirements:

(a) *Definitions.* For the purpose of this determination, the term:

(1) "Price of raw sugar" means the price of 96° raw sugar quoted by the Louisiana Sugar Exchange, Inc.; except that if the Director of the Sugar Division determines that such price does not reflect the true market value of raw sugar, because of inadequate volume, failure to report sales in accordance with the rules of such Exchange or other factors, he may designate the price to be effective under this determination, which he determines will reflect the true market value of raw sugar.

(2) "Price of blackstrap molasses" means the price per gallon of blackstrap molasses quoted by the Louisiana Sugar Exchange, Inc.; except that if the Director of the Sugar Division determines that such price does not reflect the true market value of blackstrap molasses, because of inadequate volume, failure to report sales in accordance with the rules of such Exchange or other factors, he may designate the price to be effective under this determination, which he determines will reflect the true market value of blackstrap molasses.

(3) "Weekly average price" means the simple average of the daily prices of raw sugar or blackstrap molasses, for the week (Friday through the following Thursday) in which the sugarcane is delivered.

(4) "Season's average price" means the simple average of the weekly prices of raw sugar or blackstrap molasses, whichever is applicable, for the period October 10, 1958 through February 26, 1959.

(5) "Net sugarcane" means the quantity of sugarcane obtained by deducting the weight of trash from the gross weight of sugarcane as delivered by a producer.

(6) "Trash" means green or dried leaves, sugarcane tops, dirt, and all other extraneous material delivered with sugarcane.

(7) "Standard sugarcane" means net sugarcane, containing 12 percent sucrose in the normal juice with a purity of at least 76.00 but not more than 76.49 percent.

(8) "Salvage sugarcane" means any sugarcane containing either less than 9.5 percent sucrose in the normal juice or less than 68 purity in the normal juice.

(9) "State Office" means the Louisiana State Agricultural Stabilization and Conservation Office, Alexandria, Louisiana.

(b) *Basic price:*

(1) The basic price for standard sugarcane shall be not less than $1.06 per ton for each one-cent per pound of raw sugar deter-

mined on the basis of the weekly average price or the season's average price in accordance with whichever period was used by the processor during the 1957 crop, or the processor may use the alternate period upon written approval by the State Office: *Provided,* That the average price of raw sugar as determined above may be reduced by not more than the following:

(i) 0.022 cent for all mills except those located in the areas defined in (ii) and (iii) below:

(ii) 0.097 cent for mills located north of Bayou Goula between the Atchafalaya and Mississippi Rivers and southeast of New Iberia west of the Atchafalya River; or

(iii) 0.147 cent for mills located north and west of New Iberia west of the Atchafalaya River.

(2) The basic price for salvage sugarcane shall be determined in accordance with the method of settlement used by the processor for the 1957 crop, except that the processor and producer may agree upon a different method of settlement subject to written approval by the State Office upon a determination by the Agricultural Stabilization and Conservation Louisiana State Committee (hereinafter referred to as "State Committee') that the method of settlement and the resultant price are fair and reasonable.

:) *Conversion of net sugarcane to andard sugarcane.* Net sugarcane xcept salvage sugarcane) shall be nverted to standard sugarcane as llows:

(1) By multiplying the quantity of net sugarcane by the applicable quality factor in accordance with the following table:

rcent sucrose in ormal juice of net sugarcane	Standard sugarcane quality factor [1]
9.5	0.60
10.0	.70
10.5	.80
11.0	.90
11.5	.95
12.0	1.00
12.5	1.05
13.0	1.10
13.5	1.15
14.0	1.20
14.5	1.25

[1] The quality factor for sugarcane of intermediate percentages of sucrose in normal juice shall be interpolated and for sugarcane having more than 14.5 percent sucrose in the normal juice shall be computed in proportion to the immediately preceding interval

and,

(2) By multiplying the quantity determined pursuant to subparagraph (1) of this paragraph by the applicable purity factor in the accompanying table:

(d) *Payment for frozen sugarcane.*

(1) The payment for sugarcane determined pursant to paragraph (c) herein may be reduced upon certification by the State Office that sugarcane has been damaged by freeze and that the processing of such sugarcane has adversely affected boiling house operations. Deductions from the payment for such frozen sugarcane shall be at rates not in excess of 1.5 percent of the payment for each 0.1 cc. of acidity above 2.50 cc. of N/10 alkali per 10 cc. of juice but not in excess of 4.75 cc. (intervening fractions are to be computed to the nearest multiple of 0.05 cc.). No payment is required for the amount of sugar recoverable from sugarcane testing in excess of 4.75 cc. of acidity.

(2) In the event a general freeze causes abnormally low recoveries of raw sugar by a processor in relation to the sucrose and purity tests of sugarcane, payment for such sugarcane may be made as mutually agreed upon between the producer and the processor, subject to written approval by the State Office: *Provided.* That the payment for each ton of net sugarcane shall be not less than an amount equal to the total returns from raw sugar and molasses actually recovered from such sugarcane, determined on the basis of

(Continued on next page)

the season's average prices of raw sugar and blackstrap molasses less an amount not to exceed $3.00 per gross ton of sugarcane for processing and less the actual costs of hoisting, weighing, and transporting such sugarcane.

(e) *Molasses payment.* The processor shall pay an amount equal to the product of 6.9 gallons times one-half of the average price per gallon of blackstrap molasses in excess of 6 cents for each ton of net sugarcane processed except for (1) salvage sugarcane where settlement is based on the so-called "Java Formula," (2) frozen sugarcane testing in excess of 4.75 cc. acidity, and (3) sugarcane damaged by a general freeze which is tolled by the processor and settlement is based on the net proceeds from the sugar and molasses recovered from such cane. The average price of blackstrap molasses shall be the weekly average price or the season's average price in accordance with whichever period was used by the processor during the 1957 crop, or the processor may use the alternate period upon written approval by the State Office.

(f) *Hoisting weighing, and transportation.* The price for sugarcane specified in this determination shall be applicable to sugarcane delivered (1) to a field hoist, or (2) directly to the mill. With respect to sugarcane delivered to a field hoist, the costs of hoisting, weighing, and transporting sugarcane from the hoist to the mill shall be paid by the processor or the processor shall make allowances to the producer for such services, based on net sugarcane, at per ton rates not less than those made with respect to the 1957 crop: *Provided,* That the processor shall not be required to make hauling allowances to the producer in excess of the rates charged by a contract or commercial carrier or the rates which such carrier would charge for performing such service. With respect to sugarcane delivered directly from the farm to the mill the processor shall pay the cost of transportation or shall make an allowance to the producer for such service, based on net sugarcane, at per ton rates not less than those made with respect to the 1957 crop: *Provided,* That the processor shall not be required to make an allowance to the producer for hauling sugarcane directly from the farm to the mill at rates in excess of 30 cents per ton for distances of one mile or less, 40 cents per ton for distances of 1.1 to 2 miles, plus 5 cents per ton for each mile or fraction thereof in excess of 2 miles: *Provided, Further,* That nothing in this paragraph shall be construed as prohibiting negotiations between the processor and the producer with respect to allowances to be made to the producer, any change to be approved in writing by the State Office upon a determination by the State Committee that the change results in allowances which are fair and reasonable.

(g) *Mutual plan for improving harvesting and delivery.* If a processor and the producers delivering sugarcane to such processor mutually agree upon a plan for improving harvesting and delivery operations, the processor may deduct from the price per ton of sugarcane an amount equal to one-half of the per ton cost of such plan. Such deduction may not be made until the plan has the written approval of the State Office and it has been determined by the State Committee that the plan is fair and reasonable.

(h) *Sugarcane for livestock feed.* The requirements of this determination are applicable to all sugarcane grown by a producer and processed by the processor for the extraction of sugar or liquid sugar: *Provided,* That such requirements shall not apply with respect to sugarcane grown on acreage in excess of the proportionate share for the farm if such sugarcane is marketed (or processed) for the production of sugar or liquid sugar for livestock feed or for the production of livestock feed.

(i) *Subterfuge.* The processor shall not reduce the returns to the

Standard Sugarcane Purity Factor [1]

Purity of normal juice		Percent sucrose in normal juice															
		At least 9.50	9.70	9.90	10.10	10.30	10.50	11.00	11.50	12.00	12.50	13.00	13.50	14.00	14.50	15.00	15.50
At least—	But not more than—	But not more than 9.69	9.89	10.09	10.29	10.49	10.99	11.49	11.99	12.49	12.99	13.49	13.99	14.49	14.99	15.49	15.99
68.00	68.24	1.000	0.989	0.978	0.967	0.956	0.945	0.936	0.929	0.922	0.915	0.908	0.901	0.894	0.887	0.880	0.873
68.25	68.49	1.005	.993	.982	.971	.960	.949	.941	.934	.927	.920	.913	.906	.899	.892	.885	.878
68.50	68.74	1.010	.998	.987	.976	.965	.954	.945	.938	.931	.924	.917	.910	.904	.897	.890	.884
68.75	68.99	1.016	1.003	.992	.981	.970	.959	.950	.943	.936	.929	.922	.915	.909	.902	.896	.890
69.00	69.49	1.021	1.009	.997	.986	.975	.964	.955	.948	.941	.934	.927	.920	.914	.908	.902	.896
69.50	69.99	1.025	1.013	1.001	.990	.979	.968	.960	.953	.945	.938	.931	.924	.918	.912	.906	.900
70.00	70.49	1.030	1.018	1.006	.995	.984	.973	.965	.958	.950	.943	.936	.929	.923	.917	.911	.905
70.50	70.99	1.035	1.023	1.011	.999	.988	.977	.969	.962	.954	.947	.940	.933	.927	.921	.915	.909
71.00	71.49	1.040	1.028	1.016	1.004	.993	.982	.974	.966	.959	.951	.945	.938	.932	.926	.920	.914
71.50	71.99	1.045	1.033	1.021	1.009	.998	.987	.978	.970	.963	.955	.949	.942	.936	.930	.924	.918
72.00	72.49	1.050	1.038	1.026	1.014	1.003	.992	.983	.975	.967	.960	.954	.947	.940	.934	.928	.922
72.50	72.99	1.055	1.043	1.031	1.019	1.007	.996	.987	.979	.971	.964	.958	.951	.944	.938	.932	.926
73.00	73.49	1.060	1.048	1.036	1.024	1.012	1.000	.991	.984	.976	.968	.962	.955	.948	.942	.936	.930
73.50	73.99	1.065	1.052	1.040	1.028	1.016	1.004	.995	.988	.980	.972	.966	.959	.952	.946	.940	.934
74.00	74.49	----------	1.057	1.044	1.032	1.020	1.008	1.000	.992	.984	.977	.970	.963	.956	.950	.944	.938
74.50	74.99	----------	1.062	1.049	1.036	1.024	1.012	1.004	.996	.988	.981	.974	.967	.960	.954	.948	.942
75.00	75.49	----------	-----	1.054	1.041	1.028	1.016	1.008	1.000	.992	.985	.978	.971	.964	.958	.952	.946
75.50	75.99	----------	-----	1.059	1.046	1.033	1.020	1.011	1.004	.996	.988	.981	.974	.967	.961	.955	.949
76.00	76.49	----------	-----	-----	1.051	1.038	1.025	1.015	1.008	1.000	.992	.985	.978	.971	.965	.959	.953
76.50	76.99	----------	-----	-----	1.054	1.041	1.028	1.019	1.011	1.004	.996	.989	.981	.975	.969	.963	.957
77.00	77.49	----------	-----	-----	-----	1.045	1.032	1.023	1.015	1.008	1.000	.993	.985	.979	.973	.967	.961
77.50	77.99	----------	-----	-----	-----	1.049	1.035	1.027	1.019	1.011	1.003	.996	.989	.982	.976	.970	.964
78.00	78.49	----------	-----	-----	-----	-----	1.039	1.031	1.023	1.015	1.007	1.000	.993	.986	.980	.974	.968
78.50	78.99	----------	-----	-----	-----	-----	1.042	1.035	1.026	1.018	1.010	1.003	.996	.989	.983	.977	.971
79.00	79.49	----------	-----	-----	-----	-----	-----	1.039	1.030	1.022	1.014	1.007	1.000	.993	.987	.981	.975
79.50	79.99	----------	-----	-----	-----	-----	-----	1.043	1.033	1.025	1.017	1.010	1.003	.996	.990	.984	.978
80.00	80.49	----------	-----	-----	-----	-----	-----	-----	1.037	1.029	1.021	1.014	1.007	1.000	.994	.988	.982
80.50	80.99	----------	-----	-----	-----	-----	-----	-----	1.040	1.032	1.024	1.017	1.010	1.003	.997	.991	.985
81.00	81.49	----------	-----	-----	-----	-----	-----	-----	-----	1.036	1.028	1.021	1.014	1.006	1.000	.994	.988
81.50	81.99	----------	-----	-----	-----	-----	-----	-----	-----	1.039	1.032	1.024	1.017	1.009	1.003	.997	.991
82.00	82.49	----------	-----	-----	-----	-----	-----	-----	-----	-----	1.035	1.027	1.020	1.013	1.007	1.000	.995
82.50	82.99	----------	-----	-----	-----	-----	-----	-----	-----	-----	1.038	1.030	1.023	1.016	1.010	1.004	.998
83.00	83.49	----------	-----	-----	-----	-----	-----	-----	-----	-----	-----	1.033	1.027	1.019	1.013	1.007	1.000
83.50	83.99	----------	-----	-----	-----	-----	-----	-----	-----	-----	-----	1.036	1.030	1.022	1.016	1.010	1.004
84.00	84.49	----------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	1.033	1.025	1.019	1.013	1.007
84.50	84.99	----------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	1.028	1.022	1.016	1.010

[1] Factors applicable to higher sucrose and purity of the normal juice than shown in this table shall be determined by the same method of calculation used to compute the factors specified and shall be furnished by the Louisiana State ASC Office, Alexandria, Louisiana, upon request.

producer below those determined in accordance with the requirements of this determination through any subterfuge or device whatsoever.

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UP FRONT

(Continued from page 15)

at 14½ cents. It is interesting to note that with a mostly 14½ cent feed trade price last year the first sale of Louisiana blackstrap f.o.b. plantation was at 14 cents a gallon.

Harry M. Row

We were very sorry to learn of the death on October 9th of an old friend of ours, Mr. Harry M. Row of Maringouin. Mr. Row, who was 65 years old, was for years the head of the Slack Bros. mill and plantation at Rosedale. Operations at the mill were discontinued several years ago.

We join with a host of other friends in extending sympathy to the family of Mr. Row.

Soil and Water Research

Secretary of Agriculture Ezra Taft Benson recently announced the locations and dates of public hearings to be held in connection with a study of needs for soil and water conservation research facilities. The study

(Continued on page 23)

USDA ANNOUNCES INCREASE IN DOMESTIC SUGAR QUOTA

The U. S. Department of Agriculture announced October 2nd that the estimate of domestic sugar requirements (total quotas) is being increased from 9,000,000 to 9,100,000 tons.

The Statement of Bases and Considerations for this action follows:

"Sugar distribution through Sept. 27 was approximately 150 thousand tons larger than in the comparable period of 1957 when for the year it totaled 8,735,000 tons. Although the year's supply of quota sugar for most consuming areas of the country appears adequate, currently needed raw sugar supplies for East Coast and Gulf refiners have been forthcoming during the last month only at steadily increasing prices.

"Most of the year-to-year gain in distribution has occurred since the beginning of August. This has tended to reduce somewhat the inventories of refiners and importers located on the East Coast and the Gulf. On Aug. 31 those inventories were approximately 90,000 tons lower than on the same date last year.

"Raw sugar prices rose from 6.25 to 6.35 cents between Aug. 18 and 21, then rose to a new high for the year of 6.37 cents on Sept. 15 and to 6.40 cents on Sept. 24. The sit

1958 SUGAR QUOTAS AND "D. C. LIMITS"

Area and Country	Proration of Hawaiian, Puerto Rican, Virgin Islands Deficits	New Quotas Adjusted for Proration of Deficits	Change from Previous Quotas	New Direct-Consumption Limit
	(short tons, raw value)			
Domestic beet sugar	322,865	2,299,199	43,325	no limit
Mainland cane sugar	99,349	707,486	13,332	no limit
Hawaii	(402,988)	700,000 1/	0	31,051
Puerto Rico	(338,314)	815,000 1/	0	134,589
Virgin Islands	(9,627)	6,100 1/	0	0
Republic of the Philippines		980,000	0	59,920
Cuba	328,715	3,359,600	27,933	375,000
Peru		55,588	0	9,694
Dominican Republic		79,901	6,934	8,642
Mexico		59,390	6,835	15,697
Nicaragua		14,762	879	10,351
Haiti		7,663	350	7,663
Netherlands		4,225	139	4,225
China		4,132	125	4,132
Panama		4,132	125	4,132
Costa Rica		1,123	0	1,123
Canada		757	10	757
United Kingdom		619	8	619
Belgium		218	3	218
British Guiana		101	2	101
Hong Kong		4	0	4
All other countries		0	0	0

[1] Despite declaration of deficits, the full quotas of 1,102,988, 1,153,314 and 15,727 short tons, raw value, for Hawaii, Puerto Rico and the Virgin Islands, respectively, are available to these areas.

uation in part is due to the facts that quota supplies of mainland raw sugar will not be available until after the harvest begins in mid-October and the pressure of refined beet sugar marketings may be slightly relaxed until the beginning of the heavy production season, also in mid-October.

"To make needed supplies available quotas are increased 100,000 tons to 9,100,000 tons."

The new quotas and quantities that may be brought in for direct consumption are shown in the fol-consumption are shown in the accompanying table:

—o—

IN WASHINGTON

(Continued from page 17)

homa ranch and fed it to their own live stock.

In his ruling against the government Judge Davidson declared—"There is no constitutional amendment authorizing Congress to tell the farmer what to plant, what to eat, what to do, or how to work."

U. S. Department of Agriculture officials do not believe that the Supreme Court will uphold Judge Davidson's ruling because the court has twiced ruled in the other direction.

Even though the higher court may reverse Judge Davidson, some people in Washington think Congress might change the law to allow unlimited production of grain when fed to the grower's livestock. Well informed sources say Secretary Benson favors such a change and so do an increasing number of the nation's farmers.

—o—

UP FRONT

is being made at the request of the Senate Committee on Agricultural Appropriations.

Hearings will be held at fourteen places, including New Orleans on November 20.

Eugene Graugnard, Chairman of the League's Drainage and Deep Tillage Committee, will testify at the hearing on behalf of the League.

Myrtle Grove First

The Myrtle Grove Factory of A. Wilbert's Sons Lumber and Shingle Company, Plaquemine, La., was the first mill to begin grinding operations in Louisiana this season. The Wilbert mill began turning shortly after noon on Friday, October 10th.

Reports arriving at the League office indicate that most mills are scheduled to start grinding during the week of October 19th, indicating that the grinding season will get off to a late start. Forty-eight mills will take part in the campaign. Loisel will not operate.

Raw Sugar Quotation Rules

We print below the rules governing New Orleans quotations on raw sugar that are being used by the Louisiana Sugar Exchange this year.

Refiners—American, National (Reserve Division), Colonial, Henderson, South Coast, Southdown and Supreme for Louisiana and offshore raws.

Terms—F.O.B. New Orleans duty paid basis.

Quantity—Not less than 300 short tons of Louisiana raw sugar or less than 2,000 long tons of offshore raw sugar.

Kind of Sale—Only spot sales (delivery within 35 days) covered by contract between a Louisiana raw sugar producer, or a seller of offshore raw sugar, and any one of the refiners listed above shall be considered a spot sale of raw sugar. Only sales covered by one contract shall be considered, and no resales from one refiner to another shall be considered.

Time Limit for Sales—Sales completed before 2 p.m. New York time shall be used in arriving at a price for the day. All sales completed after 2 p.m. New York time shall be carried over to the following market day and included in the sales of that day. The Exchange week shall be Friday through Thursday.

Holidays — The Louisiana Sugar

(Continued on next page)

Exchange, Inc., shall be closed when the New York sugar market is closed.

Daily Average Prices—All daily average prices shall be the simple average of the spot sales of Louisiana raws or offshore raws to the refiners listed above on any given day. When no spot sales of Louisiana raws or offshore raws to the refiners listed above are recorded on any given day the quotation for that day shall be determined by a majority vote of the Raw Sugar Quotation Committee subject to rules approved by the Board of Directors of the Louisiana Sugar Exchange.

Weekly Average Prices—Weekly average prices shall be established by taking the simple average of the daily quotations of this Exchange.

Average Price for the Season—The Season's average price shall be established by taking the simple average of the weekly average prices issued by this Exchange applicable to the Cane Purchase Contract Period.

Correction of Quotations—The Exchange reserves the right to adjust any erroneous quotations. An appeal may be taken on any daily quotation by a member of the Exchange to the Board of Directors. Such appeal must be taken within 24 hours of the time the quotation was made and an appeal fee of $25.00 shall be assessed by the Exchange for each appeal.

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in the interests of the Domestic Sugar Cane Industry

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Lloyd L. Lauden, Agronomist and Field Representative

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We stand for the encouragement of Home Industries as against Foreign Competition

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

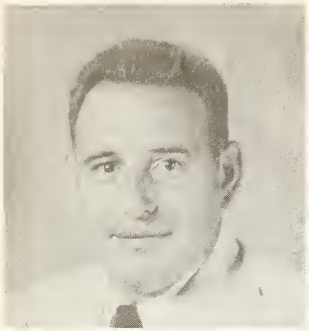
What next will be done by the U. S. Department of Agriculture to break the price of sugar? That is THE question. Recent actions taken by the Department: 2 quota increases of 100,000 tons each within a month and a blank check to eastern refiners to import unlimited amounts of raw sugar in excess of 1958 quotas have failed, to date, (Oct. 24th) and the price of raws at New York remains at $6.50 per cwt. If the price does not fall—what next?

Although the $6.50 per cwt. is well below the price authorized by Congress, it is labeled "excessive" by Washington spokesman for various industrial user organizations. In a heavy barrage of words issued to the press, those spokesmen claim there is a severe sugar shortage in the east, and blame the alleged shortage on the 1956 revisions to the Sugar Act.

Sugar representatives here believe the industrial user attack on the Act is unwarranted and not justified by facts. They point out that after the Department of Agriculture's last quota increase, the total amount of 1958 quota sugar available is 9,200,000 tons, and the Department of Agriculture's estimate of the total amount of sugar that actually will be consumed in 1958, is only 8,900,000 tons. They say there is plenty of sugar available and the so-called "tight supply" in the eastern market actually is the result, not of tight supplies, but "tight purchasers" who are unwilling to pay the price asked by the sellers. The sellers in this instance are not producers of domestic sugar. It is common knowledge that the price of sugar in the eastern market is established by one or two foreign sugar operators who control more than 50% of all the Cuba quota sugar now available to this country. These operators can name their own price, despite the efforts of the Department of Agriculture to control the market. The Sugar Act certainly should not be blamed for this situation. If one or two of the world's wealthiest men choose to invest their fortunes in sugar, who would say them nay? And, as long as they sell their sugar in the United States legally what should be done to prevent it? Opponents of the Sugar Act apparently fail to recognize that if they succeed in having the Act repealed they will be playing into the hands of individuals who control most of the world's supply of sugar, and who could, if they so desired, demand a price considerably higher than the price permitted in the Sugar Act.

What the government will do to get "the colossus of sugar" to lower his price, brings us again to the question, —"WHAT NEXT?"

According to Dr. Henry B. Hass, President of Sugar Research Foundation, Inc., a new rodenticide, Diphacin, is available from FMC International, Division of Food Machinery and Chemical Corporation. It is an anticoagulant for blood and is reported to be highly effective against rats in cane fields.



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

Growers and processors should make every possible attempt to deliver only clean fresh cane. Experiments conducted by the Southern Regional Laboratory, the Audubon Sugar Factory, and the American Sugar Cane League clearly point out that greater profits will be made by the grower as well as the mill if clean, fresh cane is milled. Growers alone will profit $5 (five dollars) per acre for each 24 hours saved in delivering harvested cane.

Some sucrose, purity, and weight are lost for every day the cane remains in the field after being cut. The longer cane remains on the ground after being cut the greater the loss. Growers can easily prove the weight loss of cane left in the field several days after being cut. To do this, growers can weigh out about 150 to 200 lbs. of cane the day cane is cut and redistribute this same cane back to the heap row. This same cane can then be re-weighed each day following for five to seven days. The loss in weight will be surprising. Weight loss can be as high as 7 to 9% in 5 to 7 days, depending on the weather.

No more sugar is made after the cane is cut. Out of the large number of 2 ton samples taken during these experiments over a two year period only one showed a very slight increase in sucrose. The large purity drop and the weight loss much more than offset the increase in sucrose in that sample. The outcome was a loss in quality and in money.

With the good weather thus far during this harvesting season there is no excuse for stale cane. The cane is burning well. Don't cut too far ahead of delivery quotas. Deliver fresh cane and make more money.

The harvest is coming along at a good pace. The few cane yield reports received thus far have been good. Sucrose and purity is about par or better and climbing steadily for most growers.

Most of the cane in the belt is straight and only a small amount of lodging has occurred in the very heavy yielding variety N. Co. 310. A small storm on the upper Lafourche caused some small amount of lodging in that area but cane is being harvested with little or no difficulty.

This crop should be a good one. It is estimated that Louisiana will average at least 23.5 tons of cane per acre and will produce at least 435,000 tons of sugar, raw value. It could easily go higher depending on how high sucrose goes.

Many in the industry seem to feel that this will be a good sucrose year. The roots of the cane are near the top of the ground, the leaves are turning brown fast, and most varieties have floral initial set in most stalks. All of these things could mean high sugar providing a heavy freeze does not occur too soon. The industry can certainly use a good sugar year. It is hoped that this will be another 1956 harvesting and sucrose season.

PROCESSING OF NEW COMMERCIAL AND UNRELEASED SUGARCANE IN COMPARISON WITH THE STANDARD COMMERCIAL CANE IN PILOT PLANT CLARIFICATIONS

By W. F. Guilbeau, E. E. Coll, and L. F. Martin, Southern Regional Research Laboratory,[1] New Orleans, Louisiana

Three af the unreleased sugarcane varieties on secondary test fields have given consistently high yields and have other desirable agronomic characteristics that may warrant the release of one or more of these canes for commercial planting within the next year or two. Evaluation of new canes by milling and processing experiments at the Audubon Factory is now required by the Contact Committee of the American Sugar Cane League as part of the data to be considered in determining the suitability of new canes for introduction into the crop. Seed cane of the promising unreleased varieties, C.P. 52/7, C.P. 52/67, and C.P. 52/68, was planted at St. Gabriel plantation, together with comparable quantities of plant cane of standard variety C.P. 44/101 to provide the tonnages required for the pilot plant tests. All of the seed cane was heat-treated to inactivate ratoon-stunting disease virus, and was planted in the Fall of 1956. The American Sugar Cane League undertook the planting, cultivation, and harvesting of the cane which was supervised by Mr. Lloyd Lauden as in previous seasons.

The stands of stubble cane of varieties C.P. 48/103, C.P. 47/193, N.Co. 310, and standard variety C.P. 44/101 from the 1956 crop at St. Gabriel had been retained to complete the data obtainable by pilot plant processing of these three new commercial canes. Initial tests of these varieties as unreleased canes were made in 1952, and pilot plant experiments have been made with them during each succeeding season. Growers now have quantities of these varieties, and they were removed from St. Gabriel so that both stubble and plant cane of the promising unreleased varieties could be grown for testing in 1958. Additional data obtained after the canes were released are useful for determining more reliably the advantage to growers and processors of increasing the acreage of each of the new commercial canes.

The two-ton samples delivered to the Audubon mill were ground in milling experiments supervised by Professor A. G. Keller under a research contract between the Department of Agriculture and Louisiana State University, results of which will be the subject of a separate report by Mr. C. W. Stewart. Scheduling of the experiments and dates of harvesting and grinding are shown in both Figure 1 and Table I; the schedule was similar to that followed during the 1956 season, and the procedures described in the report of that season's work by the authors (1) were used for clarification of the juices.

Effect of Harvesting Season Weather

The cane at St. Gabriel was subjected to the sequence of adverse weather conditions that affected the commercial crop during the 1957 harvesting season. Growing conditions had been generally favorable throughout the summer, and stands of most of the varieties at St. Gabriel were excellent at the time harvesting began early in October. They were estimated by Mr. Lauden to represent from 25 to 30 tons per acre, with the exception of C.P. 48/103, estimated at 22 tons, and a high yield of N.Co. 310, estimated at 35 tons. A period of unusually frequent and occasionally heavy rainfall began as soon as harvesting was under way and continued during most of

(Continued on next page)

the month of October. The quality of the cane samples was better than that of most of the commercial cane harvested during this period when it was frequently impossible to burn trash, and excessive amounts of soil were picked up in mechanical loading, as the cane from St. Gabriel was cut and cleaned by hand. Rainy weather was followed by a freeze on October 27-29, but temperatures at St. Gabriel were below freezing for only a few hours on each of these nights. This location is protected by the river and levees so that the cane for the experimental work escaped the severe damage experienced in some other localities. Recorded temperatures at St. Gabriel did not go below freezing during November, but there were frequent rains during the month and cane continued to grow. The graphs of Figure 1 show that juice purities did not increase as in previous seasons when early frost or cold has been followed by cool, dry weather.

A hard freeze occurred during the morning of December 1 with temperatures below 32° for eight hours; however, all but two of the few remaining samples of cane were harvested within the next three days. The last two samples were delivered to the Audubon mill before the severe freeze on December 11, and they had been affected only slightly by the earlier freeze.

Results of Pilot Plant Clarification

The equipment, procedures, and quantities measured in continuous clarification of juices from the samples of cane have all been described in previous reports (1, 2, 3). Data obtained for comparing the qualities of the juices of the new canes with that of standard C.P. 44/101 are presented in the same form that has been used throughout this research. The juices from the milling experiments were comparable to those obtained in previous seasons despite the unfavorable weather. Only three of the samples of the new commercial varieties contained excessive amounts of trash as a result of rainy weather during October. The plant cane samples of the unreleased varieties were all harvested under more favorable conditions and estimated quantities of trash were as low as in any previous season. Extractions were as good or better than the averages that have been obtained in the past from the three commercial varieties and standard C.P. 44/101 and pol percent cane was above the average of the three preceding years for the stubble cane of these varieties. The unreleased varieties also yielded satisfactory extractions and pol percent cane in the milling experiments from which variety comparisons will be made in the report to be submitted by Mr. Stewart.

Data obtained in the clarification experiments carried out by personnel of the Southern Utilization Research and Development Division are consolidated in the graphs and tables similar to those used in previous reports for comparing the varieties; however, the plant canes of unreleased varieties and of standard C.P. 44/101 comprise a separate group that should not be compared individually with the group of stubble canes of the varieties that have been released. Discussion of the various determinations made in clarifying the juices will deviate from the presentation customarily used in previous years when both plant and stubble cane of all varieties were tested so that each of the two distinct groups of canes may be considered separately.

Tests of Stubble of New Commercial Canes

The four tests made this season of the new commercial varieties C.P. 48/103, C.P. 47/193, N.Co. 310, and standard C.P. 44/101 completed a total of twelve experiments on stubble cane of these varieties since 1954. All of the results will be combined with those of eight experiments during the same period on plant cane

of these varieties to arrive at a final evaluation of these canes for clarification. A report summarizing all work done with the new commercial canes is being prepared. The ratings as percentages of the standard in the 1957 experiments differed from the ratings in prior seasons, but the relative evaluations of the new commercial canes will not be altered greatly by combining these data with the larger number of determinations made in earlier clarification tests of both stubble and plant canes. The effect of unfavorable weather, particularly during the harvest, is reflected in the results for this year. The three other seasons, for which data will be combined with those of 1957 in the final ratings, include exceptionally favorable conditions throughout most of 1956, and fairly normal conditions in 1954 and 1955 although purities remained abnormally low during all of the latter season. This report records evaluations for one season only that must be considered together with the ratings assigned in previous years (1, 4, 5).

Purities of the juices of all of the stubble canes, shown in Figure 2, were somewhat lower than in 1956 but all of the new varieties were higher than standard C.P. 44/101. The early maturing variety C.P. 48/103 yielded juice of the highest purity as it has consistently in all prior tests of the canes in this stubble group. The relative ratings of the two other new canes on juice purities were the reverse of those found in 1956 and earlier seasons, C.P. 47/193 yielding juice of somewhat higher purity than N.Co. 310. These two new canes gave juices with purities more nearly equal to that of standard C.P. 44/101. Increases in purity resulting from clarification were of the order observed in earlier experiments, but there has never been any consistent difference between individual varieties in the purity rise effected by the standard, simple lime clarification used in the experiments.

The bar graphs of Figure 3 show the quantities of mud produced, measured as the total weight of material discharged from the clarifier in lbs./T. cane, which is the most important quantity determined in these experiments from an economic standpoint. Quantities of mud produced by clarification of the stubble canes of the new commercial varieties this season were less than those obtained from the same canes in 1956. Differences between varieties were also smaller than during the previous season, but the new commercial canes were all better than the standard C.P. 44/101. The smallest quantity of mud was produced by C.P. 48/103, while N.Co. 310 yielded almost as much clarification mud as the standard. Ratings of this clarification quality as a percentage of the standard, shown in Figure 7, are for the reciprocals of the average quantities of mud obtained. On this basis, C.P. 48/103 was 10% better than C.P. 44/101 this year, when all of the canes gave small quantities of precipitate. The advantage of C.P. 48/103 is even greater when growing and harvesting conditions such as those in 1956 result in juices that produce large quantities of mud. In the tests for that season, C.P. 48/103 rated 30% better than standard (1). While both of the other new canes were somewhat better than standard, C.P. 47/193 was favored particularly by conditions affecting the quantity of mud obtained from the juices this season, and its relative rating was better than that of the stubble cane of N.Co. 310. This is a reversal of the relative ratings assigned in most of the previous experiments with both stubble and plant cane of these varieties.

The total quantity of mud, including the weight of sugars and other soluble solids of the juice removed with the precipitate, determines the rate at which processing can be carried out with a given clarifier capa-

(Tables and charts on pages 32 through 38. Text continued on page 39)

TABLE I. 1957 VARIETY PROCESSING EXPERIMENT — CLARIFICATION CONDITIONS AND PROCESSING RESULTS

Date Harvested	Cane Variety[1]	Run No.	Trash, % of Cane	Dilute Juice pH	Limed Juice pH	Defecated Juice pH	Defecated Juice Clarity[2]	Apparent Purities of Juice Dilute	Apparent Purities of Juice Defecated
10/16	C.P. 44-101S	3	8	5.50	7.40	6.60	26	68.8	71.1
23	"	8	4	5.50	7.30	6.60	41	72.5	75.2
30	"	11	6	5.60	7.25	6.60	44	72.5	74.9
11/6	"	16	4	5.50	7.25	6.55	38	73.4	76.5
		Average	6	5.50	7.30	6.60	37	71.8	74.4
10/14	C.P. 47-193S	2	11	5.55	7.35	6.65	28	73.9	74.7
21	"	5	4	5.55	7.30	6.65	38	74.8	76.7
28	"	10	2	5.60	7.20	6.60	48	76.0	78.2
11/4	"	13	3	5.70	7.15	6.60	45	76.1	76.6
		Average	5	5.60	7.25	6.65	40	75.2	76.6
10/14	C.P. 48-103S	1	11	5.75	7.25	6.60	25	79.7	80.1
21	"	6	7	5.60	7.10	6.60	33	80.1	83.6
28	"	9	12	5.70	7.15	6.60	33	83.0	83.8
11/4	"	14	4	5.65	7.10	6.60	28	82.8	83.5
		Average	8	5.65	7.15	6.60	29	81.4	82.8
10/16	N. Co. 310S	4	2	5.50	7.40	6.60	25	71.0	74.6
23	"	7	5	5.45	7.35	6.55	29	73.1	76.6
30	"	12	5	5.60	7.25	6.60	29	72.2	73.7
11/6	"	15	4	5.55	7.20	6.55	31	73.9	75.4
		Average	4	5.55	7.30	6.55	29	72.6	75.1
11/11	C.P. 52-57P	18	8	5.50	7.25	6.55	23	70.4	73.0
18	"	21	3	5.60	7.30	6.60	20	73.2	74.3
25	"	25	2	5.50	7.35	6.60	29	73.3	76.2
12/4	"	29	4	5.50	7.35	6.60	33	72.3	75.2
		Average	4	5.50	7.30	6.60	26	72.3	74.7
11/11	C.P. 52-67P	17	3	5.35	7.15	6.50	13	72.3	74.3
18	"	22	2	5.55	7.40	6.60	10	79.0	80.7
25	"	26	2	5.65	7.35	6.60	10	77.5	79.7
12/4	"	30	3	5.55	7.35	6.65	19	77.0	79.5
		Average	3	5.55	7.30	6.60	13	76.4	78.6
11/13	C.P. 52-68P	20	6	5.60	7.25	6.60	19	75.3	78.4
20	"	23	2	5.50	7.30	6.65	24	79.3	81.7
12/2	"	28	3	5.50	7.35	6.65	20	80.3	80.7
9	"	31	4	5.60	7.35	6.70	24	77.5	78.9
		Average	4	5.55	7.30	6.65	22	78.1	79.9
11/13	C.P. 44-101P	19	4	5.60	7.30	6.60	32	72.5	76.7
20	"	24	3	5.55	7.35	6.60	38	74.5	78.2
12/2	"	27	3	5.65	7.30	6.65	37	76.6	79.1
9	"	32	2	5.70	7.35	6.65	37	72.6	76.1
		Average	3	5.65	7.30	6.60	36	74.0	77.5

[1] S—1st year stubble cane; P—Plant cane.
[2] Adjusted to 14 Brix

TABLE II. 1957 VARIETY PROCESSING EXPERIMENTS — LIME REQUIREMENTS AND MUD EVALUATIONS

Cane Variety[1]	Run No	Lime Required, Lbs./T. Cane	Dry Solids, % of Mud Weight	Mud Wt., Lbs./T. Cane Dry Solids			Dry Solids Analyses, Weight %		Settling, % Mud Vol. in 60 min.
				Wet	Actual	Adjusted[2]	Mineral	Organic	
C.P. 44-101S	3	1.41	7.95	136	10.81	6.27	61.1	38.9	14.5
"	8	1.64	10.47	119	12.46	7.11	62.3	37.7	15.4
"	11	1.44	7.41	114	8.45	6.51	48.9	51.1	15.0
"	16	1.42	5.21	136	7.09	6.71	35.2	64.8	10.5
	Average	1.48	7.76	126	9.70	6.65	51.9	48.1	13.8
C.P. 47-193S	2	1.33	5.77	112	6.46	6.06	62.6	37.4	9.0
"	5	1.47	6.64	118	7.84	6.90	39.0	61.0	19.8
"	10	1.38	6.34	126	7.99	7.17	35.6	64.4	12.5
"	13	1.40	6.18	115	7.11	6.14	35.0	65.0	15.4
	Average	1.40	6.23	118	7.35	6.57	43.0	57.0	14.2
C.P. 48-103S	1	1.06	4.88	134	6.54	6.02	33.0	67.0	10.8
"	6	1.16	8.61	110	9.47	6.41	48.6	51.4	10.9
"	9	0.99	8.34	108	9.01	6.75	40.6	59.4	14.5
"	14	1.09	6.00	102	6.12	5.36	31.1	68.9	9.4
	Average	1.08	6.96	114	7.78	6.14	38.3	61.7	11.4
N. Co. 310S	4	1.33	12.59	136	17.12	7.30	65.3	34.7	16.8
"	7	1.22	9.82	109	10.70	6.43	54.3	45.7	14.9
"	12	1.31	6.05	110	6.66	6.20	31.6	68.4	11.8
"	15	1.18	5.15	134	6.90	6.65	30.1	69.9	13.7
	Average	1.26	8.40	122	10.34	6.64	45.3	54.7	14.3
C.P. 52-57P	18	1.24	7.49	94	7.04	5.97	41.3	58.7	8.6
"	21	1.32	7.94	102	8.10	6.15	45.9	54.1	10.2
"	25	1.38	7.81	109	8.51	6.20	46.4	53.6	12.1
"	29	1.42	9.83	109	10.71	6.72	53.2	46.8	14.7
	Average	1.34	8.27	104	8.59	6.26	46.7	53.3	11.4
C.P. 52-67P	17	1.42	5.00	142	7.10	6.26	32.9	67.1	11.5
"	22	1.42	7.89	122	9.63	7.27	43.9	56.1	14.2
"	26	1.11	9.63	106	10.21	6.46	49.5	50.5	14.4
"	30	1.15	8.08	106	8.56	6.05	47.0	53.0	12.7
	Average	1.28	7.65	119	8.88	6.51	43.3	56.7	13.2
C.P. 52-68P	20	1.10	10.00	113	11.30	5.65	60.5	39.5	12.0
"	23	1.25	7.84	109	8.55	6.24	48.1	51.9	12.3
"	28	1.23	7.96	101	8.04	6.16	40.3	59.7	13.0
"	31	1.29	7.96	123	9.79	6.87	46.9	53.1	14.4
	Average	1.22	8.44	112	9.42	6.23	49.0	51.0	12.9
C.P. 44-101P	19	1.27	8.93	108	9.64	5.65	59.1	40.9	11.2
"	24	1.37	9.29	108	10.03	5.98	58.9	41.1	11.4
	27	1.30	8.56	103	8.82	6.33	48.1	51.9	11.9
	32	1.33	6.04	111	6.70	5.78	39.9	60.1	12.1
	Average	1.32	8.20	108	8.80	5.94	51.5	48.5	11.6

[1] S—1st year stubble cane; P—Plant cane.
[2] Adjusted to 1.0 lb. suspended field soil per ton cane in dilute raw juice

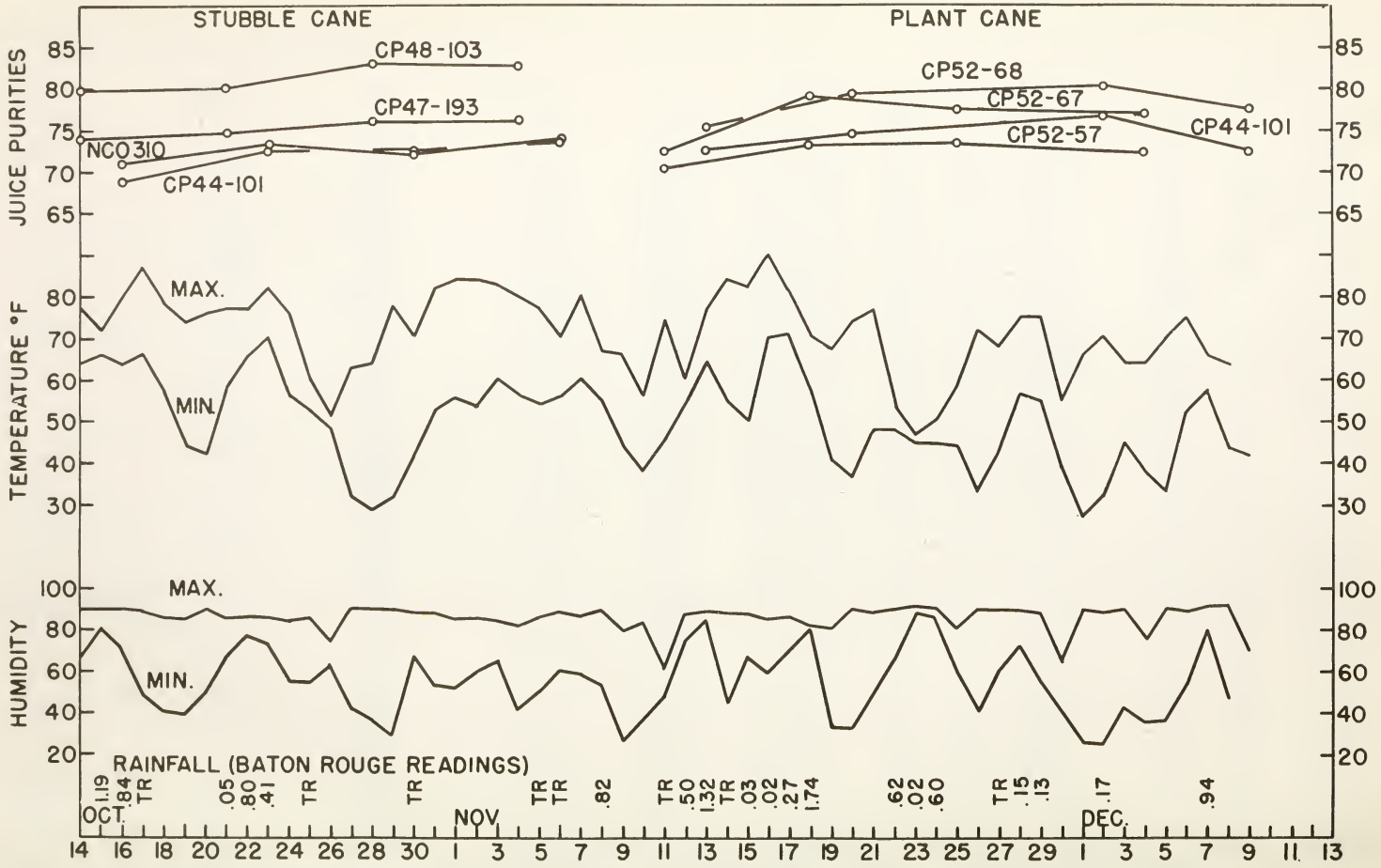


FIG.1-WEATHER CONDITIONS AND JUICE PURITY CHANGES DURING 1957 GRINDING SEASON

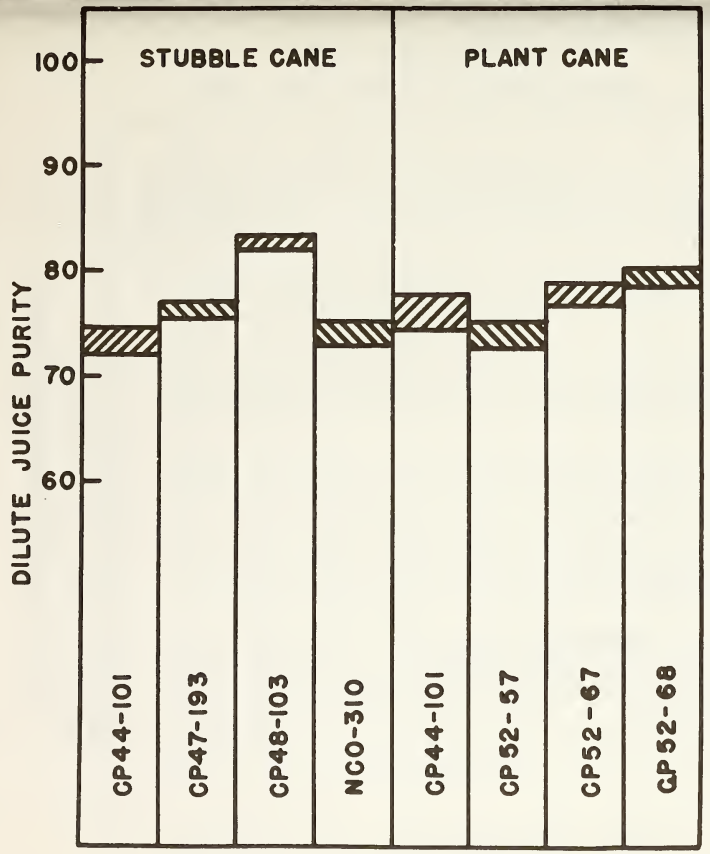


FIG. 2 1957 VARIETY COMPARISON
DILUTE JUICE PURITY
(PURITY RISE IN SHADED AREAS)

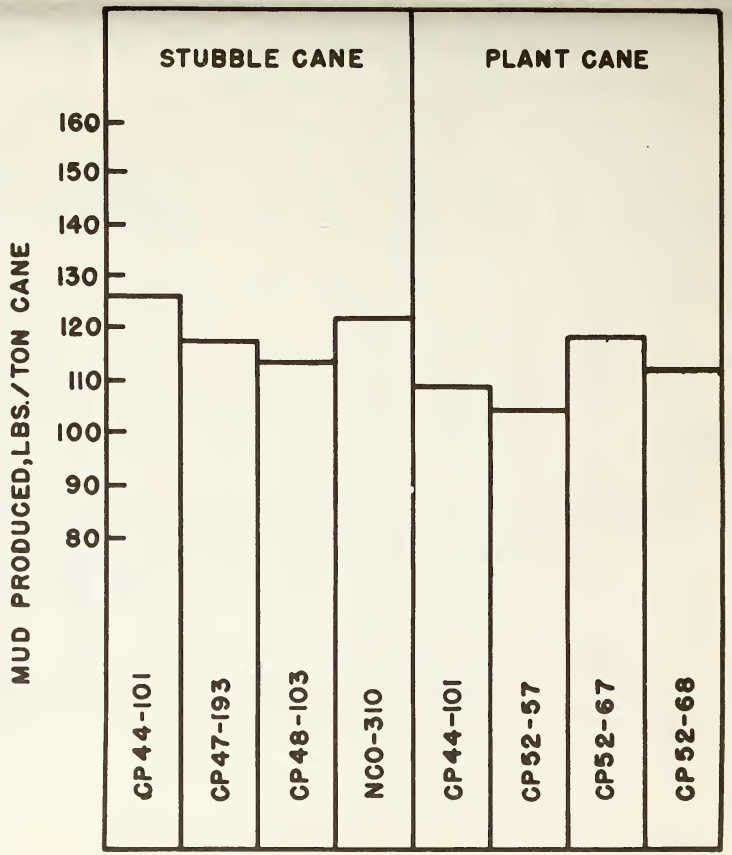


FIG. 3 1957 VARIETY COMPARISON
MUD PRODUCTION

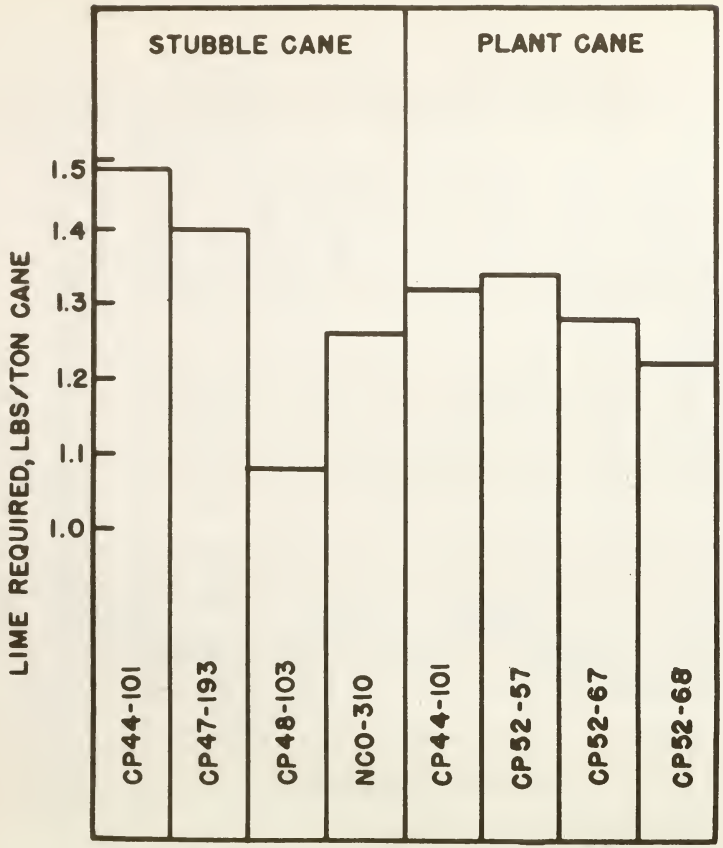


FIG.4 1957 VARIETY COMPARISON
LIME REQUIREMENT

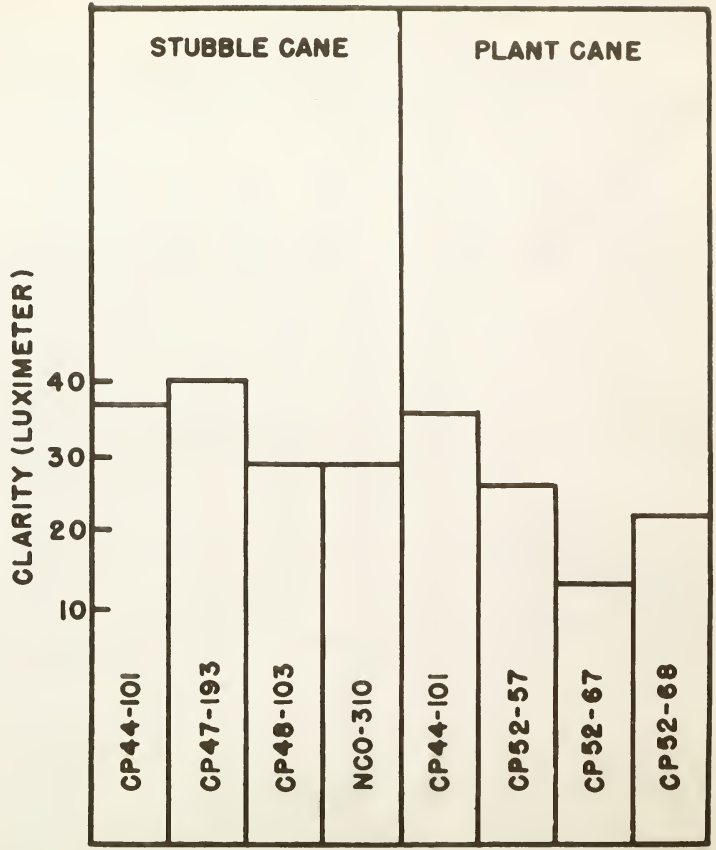


FIG.5 1957 VARIETY COMPARISON
DEFECATED JUICE CLARITY

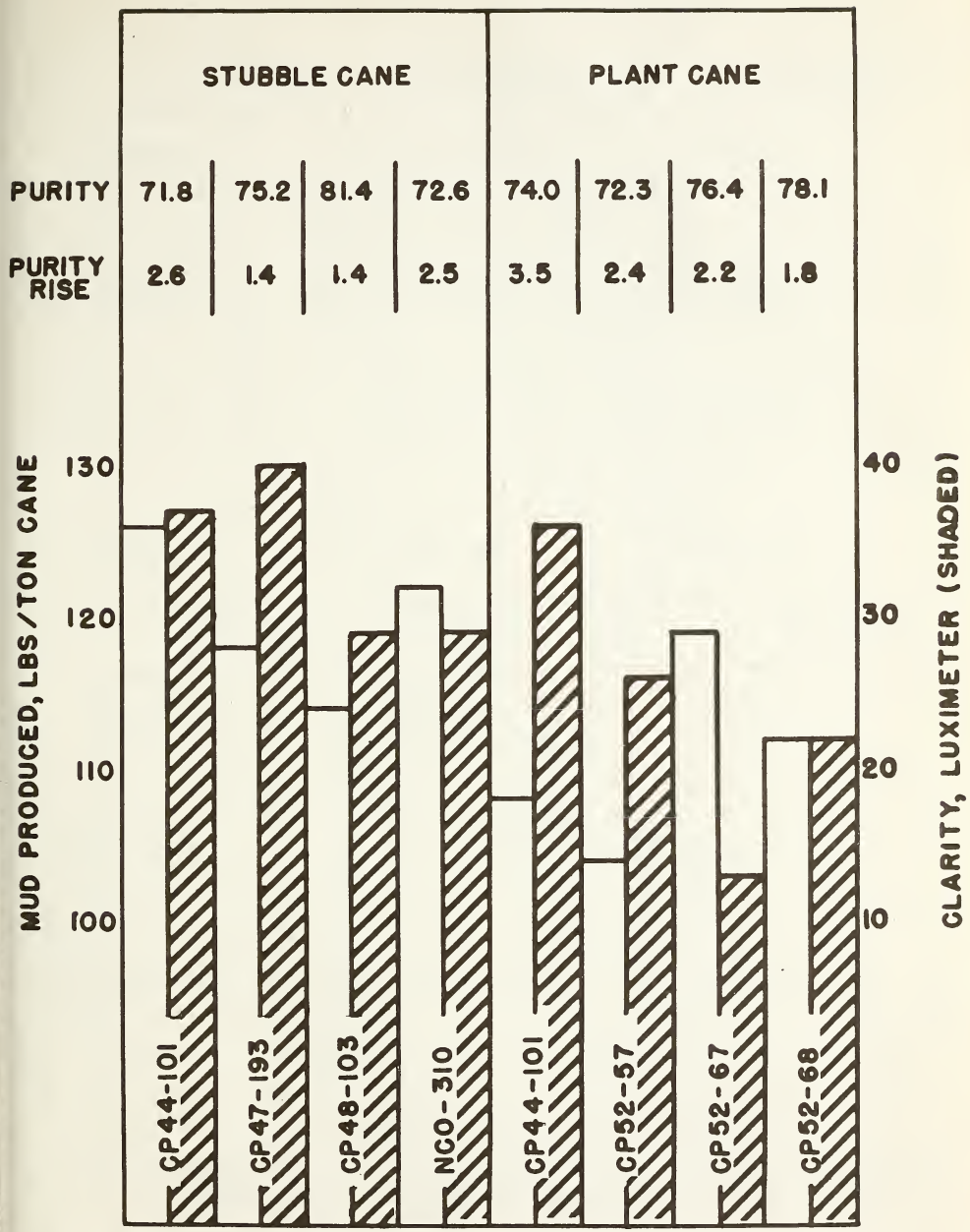


FIG. 6, 1957 SUMMARY OF VARIETY PROCESSING COMPARISONS

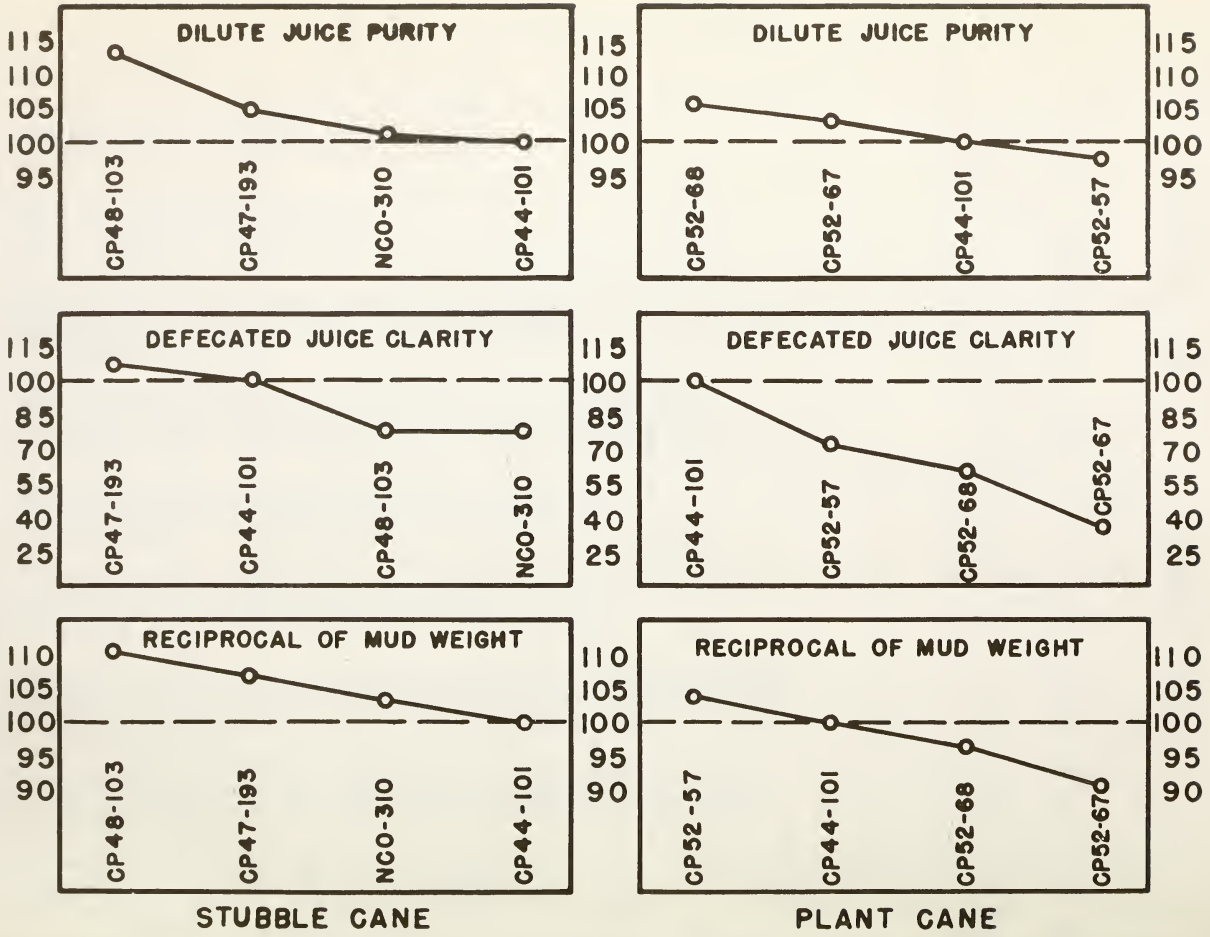


FIG. 7, 1957 VARIETY COMPARISONS (CP44-101 AS STANDARD)

city. The quantities produced in individual tests are shown as the wet mud weight in Table II. This table also shows the individual and average actual weights of dry solids per ton of cane removed in the corresponding quantities of total clarifier discharge. This weight of dry solids is more comparable to the amount of filtered and washed mud eliminated in factory operation than the total weight of wet mud; however, it is the total quantity of precipitate and juice in wet mud, rather than the insoluble solids content, that limits the practical rate of clarification. The densities to which the precipitates can be thickened in the clarifier vary within wide limits, so that the weight of insoluble dry solids eliminated is not related consistently to the quantity of total mud that must be discharged. The weights of dry solids are corrected by deducting the weights of field soil in excess of 1 lb. per ton of cane, which is considered to be the amount allowable in juice of uniformly clean cane. The actual weight of field soil in each raw juice sample is approximated from the mineral content of the total suspended solids collected by filtering samples of the mixed juice and determination of the ash content of the washed solids.

Average amounts of lime in lbs./T. cane used in clarifying the juices of the stubble canes are shown graphically in Figure 4. The same grade of high purity, reactive lime was used throughout the season, and continuous liming was controlled automatically to produce clarified juice at pH 6.6 $\pm$ 0.05 in all but two experiments. Amounts of lime consumed by the stubble cane juices were not directly proportional to the weights of either the whole, wet mud or the total dry solids precipitated, but they were in the same relative order. The quantities of mud precipitated were also less this year than in 1956, and about 20-25% less lime was required on the average for the standard and C.P. 47/193 and N.Co. 310; C.P. 48/103 which produces the least mud, required only 62% as much lime per ton of cane this year as was used in 1956 to clarify stubble cane juices of this variety.

Average clarities of the clarified juices of the new commercial canes and standard C.P. 44/101 stubble cane, shown in Figure 5, were not as high as those produced by clarification of these canes during previous seasons. It has been observed throughout this work that poorer clarities are generally obtained for juices that yield smaller quantities of precipitate in clarification. The higher clarity of C.P. 47/193 with respect to the standard is consistent with the clarity ratings of this variety in all of the previous seasons during which it has been tested. It yielded juice of better clarity, even though it produced somewhat less mud than standard C.P. 44/101 this year. Variety C.P. 48/103 stubble cane did not give as good clarity this season as it has in the past. The clarity of the juice of N.Co. 310 was as good as that of C.P. 48/103, but both were 7% lower in clarity than juice of standard C.P. 44/101.

The composite data presented in Figure 6 afford a convenient comparison of the stubble canes of the new varieties with one another and with the stubble of standard C.P. 44/101 with respect to all quantities determined in the clarification experiments. For comparison of stubble cane only during a season when conditions were less favorable than usual, consideration of all of the results places C.P. 48/103 first, as having the most desirable qualities for processing by simple clarification. Its superiority to the other new commercial canes and to the standard is not as great as that determined in previous seasons when conditions were more favorable. The rating of C.P. 47/193 on these stubble cane tests alone would be much better than it has been on the basis of prior experiments with both plant

(Continued on next page)

and stubble cane. Its processing qualities are substantially equal to those of N.Co. 310, and both of these new canes are better than the standard although the margin of superiority is small. The choice among these new canes will depend upon the importance attached to ease of clarification at maximum rates with small quantities of mud to be filtered and of filtrate to be recycled, or to the production of juices of the highest clarity. Factories with limited clarifier capacity must consider the increased cost of reducing the rate of grinding and processing to handle large quantities of clarifier discharge, and would find it more profitable to process C.P. 48/103. Where clarifier capacity is ample, and juices of high clarity are desired, this can be attained more consistently by processing C.P. 47/193. Processing of N.Co. 310 should be possible at about the same rate as standard C.P. 44/101, but the juice clarity will not be as good as that of standard cane juice.

Raw juice purities are tabulated in Figure 6 because they affect results obtained in clarification, although this is a quality of the cane as received and is not itself a processing characteristic. The high purity of the juice of C.P. 48/103 increases its superiority over the other canes when considered together with its good processing qualities. Comparison of stubble cane only, harvested early in the season, gives a higher relative purity rating for the early maturing C.P. 44/103 than it received in other years when both stubble and plant cane were tested throughout the season. The data shown quantitatively in Figure 6 are represented as percentages of the standard C.P. 44/101 in the conventional graphs of Figure 7.

Tests of Plant Cane of Unreleased Varieties

It must be emphasized that any comparisons of the unreleased canes based upon tests of plant cane only for one season, when unusual conditions prevailed during the harvest, are preliminary. Data obtained this year in clarification of the juices of these canes are merely an indication of what may be expected of the new varieties, and future experiments with both plant and stubble cane may reverse their relative standings with respect to the standard plant cane. The average quantities determined in the clarification of only four samples of each of the juices have little or no statistical significance. Additional plantings of varieties C.P. 52/57, C.P. 52/67, and C.P. 52/68 were made in the Fall of 1957 to provide plant cane for experiments in 1958, when stubble cane of these varieties will also be tested. Twelve to sixteen experiments with each variety, including preferably an equal number of plant and stubble cane tests, are required for statistically significant and reliable determinations of the quantities measured by clarification in the pilot plant.

The plant cane samples of unreleased varieties yielded juices with purities more nearly equal to that of the plant cane juice of C.P. 44/101, as shown in Figure 2. A lower purity was found for the average of the juices of C.P. 52/57, while C.P. 52/67 and C.P. 52/68 gave somewhat higher purities than the standard plant cane. The quantitative differences in purity of 1.7% below to 4.1% above the average of 74.0% purity of the standard were not large enough to have an appreciable effect upon results obtained in clarification and the juices were comparable in quality.

The experiments with juices of C.P. 44/101 standard plant cane produced smaller quantities of clarification precipitate than usual (1, 2), and it may be assumed that the quantities of mud produced by the new canes this season are also low. They might be expected to yield larger amounts of mud when they are tested after more normal growing and harvesting conditions. Only one of the unreleased canes, C.P. 52/57, produced less mud than the standard,

but its advantage of only 4% is not significant. The inferiority of C.P. 52/68 was only 4% and is not significant, but the production of almost 10% more mud from juices of 52/67 indicates that it may prove to be inferior with respect to the rate at which its juices can be clarified. Excessive mud production by juices of this cane may not be confirmed after more thorough testing, as the two experiments made later in the season both yielded only 106 pounds per ton of clarifier discharge, less than the average obtained from the standard cane juice. The average result for C.P. 52/67 was increased by the two experiments made with this cane in mid-November in which 122 and 142 pounds of mud were obtained per ton of cane, as shown in the data for individual tests in Table II.

The quantities of lime required for clarification of the plant cane juices, shown in Figure 4 as lbs./T. cane, were neither proportional nor directly related to the quantities of precipitate discharged in clarifying these juices. The juice of C.P. 52/68 produced somewhat more mud than C.P. 44/101, but required less lime than the standard plant cane juice. The amounts of lime used were small for plant cane juices including that of the standard C.P. 44/101, as plant cane juices have always consumed considerably more lime than the stubble cane juices of the varieties that have been tested in the past.

Clarities of the clarified juices of the unreleased varieties can be compared with that of the plant cane juice of C.P. 55/101 by reference to Figure 5, which shows that all of them produced juices of poorer clarity than the standard. Plant cane juices have generally, although not invariably, had better clarities than the stubble cane juices of the varieties for which the two kinds of cane have been compared in previous seasons; however, the clarities obtained for these unreleased varieties as plant cane are lower than those of the juices of stubble of the commercial canes tested this year. Clarities in general were lower this season than in the tests made during any previous crop. Consistently low clarities of 10-19 Luximeter units were obtained in the individual tests of C.P. 52/67 for the low average clarity of 13 units, as shown in Table I. This poor clarity is not compensated by the advantage of low mud production, as C.P. 52/67 produced the largest quantity of mud of any of the unreleased canes, and was poorer than the standard in this respect also.

A composite presentation of the averages of all quantitative determinations made on juices of the unreleased varieties is given in Figure 6, and the relative ratings obtained for these canes are shown as percentages of the standard cane by the graphs of Figure 7. The results reported for these experiments must be considered with the reservation emphasized before that they are preliminary, and are very likely to be altered significantly by the additional tests that are scheduled to be completed before a decision is reached as to releasing one or more of these new canes.

A complete record of all the data obtained in the 32 pilot plant processing experiments is given in Tables I and II for both the unreleased and the new commercial canes. Results of laboratory measurements of the rate of settling of mud from all the juices are tabulated in the last column of Table II. These tests were carried out with samples of limed and heated juice drawn at the clarifier inlet, which were allowed to settle in a cylinder placed in an insulated cabinet to minimize convection. The cylinder design and procedure were improved this year, but similar laboratory settling data have been obtained during several previous seasons. The percentages of the total volume occupied by the precipitate after settling for 60 minutes

(Continued on next page)

do not show any relationship to the weights of mud per ton of cane discharged from the pilot plant clarifier under conditions of continuous clarification in motion comparable to commercial clarification. A theoretical equation has been published recently(6) and a laboratory clarification and settling test has been described for determing the relative rates of settling of precipitates from cane juices as a measure of their suitability for clarification.

The action of gravity settling from quiescent juice in the cylinder test is not the same as that of settling in motion and thickening in the clarifier. Lack of correlation between the results of the two different types of settling shown in Table II indicates that conditions in the clarifier relative to gravity settling are more effective for thickening some precipitates and less so for others. This can be accounted for by variations of precipitated flocs, which have been the density, size, and shape of the investigated most recently by Bennett(7). Data accumulated for 5 years from these settling tests and the corresponding pilot plant experiments will be analyzed to determine whether any correlation can be developed. We do not know of any other investigations in which quantitative data have been obtained from controlled clarification on a pilot plant scale for comparison with laboratory settling tests that have been proposed for use in processing research or control of factory clarifier operation.

Acknowledgment

We are sincerely pleased to credit the effective cooperation of the American Sugar Cane League during this season, as in past years, for much of the success of this research program. We are particularly indebted to the Industrial Committee of the League for counsel and assistance in planning the experiments, and to Mr. Lloyd L. Lauden, the League's Field Representative, for untiring attention to details of production of the cane for our use. The experiments would not be possible without the genuine interest and care of staff and personnel at St. Gabriel Plantation who planted, cultivated, and harvested the canes as required for the scheduled tests, in spite of unfavorable weather during the harvest season. We are also grateful for unstinted cooperation of Professor A. G. Keller and his staff at Louisiana State University regarding phases of these experiments related to their program of testing the canes for milling qualities under contract with the U. S. Department of Agriculture.

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[1] One of the laboratories of the Southern Utilization Research and Development Division, Agricultural Research Service, U. S. Department of Agriculture.

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The Statement of Bases and Considerations for this action follows:

"On Oct. 2 total quotas were increased 100,000 tons to 9.1 million short tons, raw value. In the announcement, it was noted that although the year's supply of quota sugar for most consuming areas of the country appeared adequate, currently needed raw sugar supplies for East Coast and Gulf refiners were forthcoming only at steadily increasing prices.

"The mainland crop has progressed well particularly since the start of the summer. However, late rains which persisted until Oct 3 have delayed the start of the grinding season at most mills by an average of about one week. Thus, refineries located in the Gulf region are more than usually dependent upon offshore supplies during October and supplies available to Eastern refineries are reduced accordingly.

"Raw sugar prices have risen from 6.25 cents per pound on Aug. 18 to the present level of 6.45 cents.

"It is apparent that total quotas of 9.1 million tons are not adequate to bring forth the needed raw sugar supplies. Accordingly total quotas are increased 100,000 tons to 9.2 million tons."

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STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946

(Title 39, United States Code, Section 233)

Of The Sugar Bulletin, published semi-monthly at New Orleans, La., for October 1, 1958, State of Louisiana, Parish of Orleans.

Before me, a Notary Public in and for the State and parish aforesaid, personally appeared Gilbert J. Durbin, who, having been duly sworn the Editor of the Sugar Bulletin and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Acts of March 3, 1933, and July 2, 1946, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit.

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, The American Sugar Cane League of the U. S. A., Inc., New Orleans, La.; Editor, Gilbert J. Durbin, New Orleans, La.; Managing Editor, Andrew W. Dykers; Business Manager, none.

2. That the owner is the American Sugar Cane League of the U. S. A., Inc., New Orleans, La.; Bronier Thibaut, Napoleonville, La., President; Ed. Schexnayder, White Castle, La., Vice President; J. J. Shaffer, Houma, La., Secretary; F. Evans Farwell, New Orleans, La., Treasurer.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are none.

GILBERT J. DURBIN,
Editor.

Sworn to and subscribed before me this 25th day of September, 1958.

BRITTMAR P. LANDRY,
Notary Public.

(Seal)

(My commission expires at death.)

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in the interests of the Domestic Sugar Cane Industry

THE
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UP FRONT WITH THE LEAGUE

by A. W. Dykers

A Deal

On page 50 of this issue we are printing an official release from the United States Department of Agriculture. Despite its briefness it is a very important and, from our point of view, a very expensive revelation. The release explains that over in Geneva, Switzerland, when Mr. Lawrence Myers, Head of the Sugar Division, was attending a meeting of the International Sugar Council, Peru signed the 1956 International Sugar Agreement.

By way of explanation, the meeting of the International Sugar Council was being held, so most folks thought, to discuss the framing of a new International Sugar Agreement. This was necessary because the 1956 agreement expires at the end of the present calendar year. Peru, and a few other countries, had gone their merry ways throughout 1956 and 1957 and practically all of the 1958 refusing to sign the 1956 Agreement and the news reports from Geneva indicated that special effort would be made this time to have the holdout nations sign the *new* agreement.

As everyone in the sugar business knows, Mr. Myers has been trying desperately for the past month and a half to break the U. S. sugar market. To that end he increased quotas from 9,000,000 to 9,200,000 tons and also allowed the refiners to purchase and refine over quota sugar (see In Washington With Joe Ferris) but the price of raws remained fairly stable. He appeared to be losing his cat and mouse game with someone the trade calls "Mr. Sugar" when suddenly he dealt a card from another deck. Peru signed the practically defunct 1956 International Sugar Agreement and Mr. Myers immediately ruled that this act entitled that country to its full share of the 1958 U. S. quota. Suddenly 31,279 tons of sugar were dumped on the market and the raw sugar price skidded seventeen points in three days.

Where Did He Get It?

The question in our mind is where did Mr. Myers legally get the 31,279 tons of quota sugar he gave Peru? The sugar had already been allotted to other countries before the Peruvian increase and the consumption estimate before and after the deal remained unchanged at 9,200,000 tons. The U.S.D.A. stated previously that the 31,279 tons had been taken from Peru earlier in the year because that country refused to sign the 1956 International Sugar Agreement. The entire amount was allotted to foreign countries "Other than Cuba and the Philippines". Now the 31,279 tons has been given back to Peru without taking it away from the other countries and the original 31,279 tons has, in reality, been doubled.

It seems to us that Mr. Myers has added 31,279 tons to the 1958 marketing quotas without increasing the consumption estimate to take care of the additions and that the foreign countries, other than Cuba and the Philippines, are now in possession of 31,279 tons more of U. S. quota sugar than the formula, written by Congress into the Sugar Act, indicates

(Continued on page 51)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

In our last column we asked the question—"What next will the government do to get the price of raw sugar down?" The answer was promptly forthcoming—but don't let any wiseacre tell you he "knew it all along". No one outside the innermost circle of Messrs. Myers, Murphy and Company, Unlimited, of the U. S. Department of Agriculture, knew what was coming until they lowered the boom!

Several weeks ago when the raws sold in New York for $6.50 per cwt. the government set out to break the market. The first two steps were to raise the quota on two different occasions, by 100,000 tons each. The third step taken by the U. S. Department of Agriculture was to permit sugar to be entered in excess of the quota for melting in December, which meant that refiners could use up all of their inventories and have the excess quota sugar in refined form for immediate distribution after January 1, 1959. These three steps had no apparent effect on the market because most of the sugar available for purchase by U. S. refiners was owned or controlled by one Cuban operator. This operator, commonly known as "Mr. Sugar" held firm and refused to lower his price. By doing so, "Mr. Sugar", to use a well known Cuban expression, "held the umbrella" over the American market. For this action, even though it was motivated by a selfish interest, sugar producers in the mainland cane area are grateful.

But the umbrella was not destined to last throughout the storm which quickly brewed on the fourth floo in the southwest corner of the Soutl Building in the U. S. Department o Agriculture. Even the largest anc most astute operator on the marke cannot hope to outwit Washingto bureaucrats when they really pu on their thinking caps. By a strang coincidence one of the sugar pro ducing nations whose signature ha been conspicuous by its absence fron the International Sugar Agreement but one which has always been ver vocal in its demands for a large U. S. quota, agreed at the eleventl hour,—or should we say the eleventl month of the year, to become a part to the International Sugar Agreement.

Under that Agreement, the Unitec States is obligated to restrict import from non-member countries to the highest quantity imported from these countries in any part of the years from 1951 to 1953. In the case o Peru, this quantity was 55,588 tons In the past Peru has notoriously beer opposed to becoming a member o the International Sugar Agreement Immediately after the accession by Peru to the 1956 International Sugar Agreement, which is effective only until December 31, 1958, the U. S Department of Agriculture increased Peru's quota to 86,867 short tons Mr. Myers or Mr. Murphy, in the role of David, unerringly found the vulnerable part of "Mr. Sugar Goliath's" anatomy by increasing the quota 31,279 tons, which Peru promptly made available to U. S. refiners a a greatly reduced price. In light o

(Continued on page 55)

STRAINS OF SUGARCANE MOSAIC VIRUS IN LOUISIANA

By E. V. Abbott, Plant Pathologist, Crops Research Division, Agricultural Research Service, United States Department of Agriculture

Identification of a new strain of mosaic in Louisiana was announced at the June meeting of the Contact Committee of the American Sugar Cane League held at Houma. This has stimulated renewed interest in mosaic, which for nearly 40 years has been one of the problems confronting the Louisiana cane grower. The role of mosaic in the failure of Louisiana Purple, Louisiana Striped and D-74 varieties of sugarcane in the mid-1920's needs no retelling. The disease continued to be an important cause of yield reduction for some 25 years following the replacement of these noble-type canes with the susceptible but tolerant P.O.J. varieties (1926-1936), Co. 281 (1930-1940), and Co. 290 (1933-1950). But as these varieties were replaced as major canes with highly resistant ones, such as C. P. 28-19, C. P. 29-320, C. P. 34-120, C. P. 36-105 and C. P. 44-101, mosaic gradually receded to a position of less and less importance —always present but affecting a progressively decreasing percentage of the commercial acreage.

By 1954, when the moderately susceptible N. Co. 310 was released, mosaic had been virtually forgotten by most Louisiana cane growers since the growing of resistant varieties over a long period had made other control measures unnecessary. Only in the small remaining acreage of Co. 290, where no effort had been made to control mosaic by roguing, was the disease causing any appreciable loss. The fact that the disease was so well under control influenced the decision to release N. Co. 310, which was known to be susceptible to mosaic, for it was felt that with some vigilance toward the disease the industry could take advantage of the good-yielding ability and outstanding cold tolerance of this variety.

At least 3 things have important influences on the spread of mosaic in the field: (1) The degree of resistance or susceptibility of the sugarcane variety being grown; (2) the numbers and activity of insect vectors present and (3) the strains of the mosaic virus present.

Cane growers generally think of mosaic as a single disease. However, like many other disease-producing agents, the mosaic virus has various strains, which differ in their ability to cause infection of different sugarcane varieties and in the degree of injury they cause. On our commercial varieties, and in fact on most varieties of sugarcane, the symptoms produced by the different strains are so similar that they can not be distinguished. To identify them as separate strains it is necessary to transfer them by inoculation to specially selected varieties, called differential hosts, on which each strain produces a distinct symptom pattern.

The effect of growing an increasing acreage of resistant varieties in diminishing the importance of mosaic over the 25-year period from 1925 to 1950 has already been mentioned. During this period, although there was some change in the relative prevalence of different strains of the mosaic virus, that in itself apparently did not determine the occurrence or importance of the disease. As pointed out by Summers, Brandes and Rands,[1] strain E is believed to have been the one present on Louisiana Purple, Louisiana Striped and D-74 sugarcane varieties. Strains D and B became prevalent in the P.O.J. varieties, with D predominating. These 2 strains continued to predominate almost to the exclusion of others while Co. 281 and Co. 290 were grown (1930-1950), but strain D became the more common of the 2 on Co. 290 after Co. 281 was discontinued.

In 1943, strain A, a strain of the

(Continued on next page)

PERMITTED SUGAR IMPORTS FROM PERU INCREASED

On November 6th the U. S. Department of Agriculture announced an increase of 31,279 short tons, raw value, in permitted imports of sugar from Peru within that country's 1958 quota of 86,867 short tons, raw value.

This increase is a result of the accession by Peru to the 1956 International Sugar Agreement, which is effective until Dec. 31, 1958. USDA has been advised that Peru has deposited with the proper authorities instruments of accession to the 1956 Agreement.

Under the Agreement the United States is obligated to restrict imports from non-member countries to the highest quantity imported from these countries in any of the years 1951-53. In the case of Peru this quantity was 55,588 tons. With Peru's accession to the Agreement the full 1958 quota of 86,867 short tons, raw value, is eligible for entry.

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virus not previously known to occur in commercial fields in Louisiana, was identified on C. P. 34-120 at Raceland. The following year it was identified there in a commercial field of C. P. 28-19, in which there was a high percentage of infection. From 1944 to 1949 several collections of it were made on different varieties in the agronomy test field there, and in 1949 it was obtained from C. P. 36-105 in plantation fields. In the same year it was identified in commercial fields of C. P. 34-120 and C. P. 44-101 at Cinclare Plantation, where infection in one small field of C. P. 34-120 reached 25 percent.[2] There was only a trace in C. P. 44-101. Also in 1950 it was obtained from unreleased varieties being increased on Alma, Southdown and Elm Hall Plantations, among them C. P. 44-155, which is highly resistant to mosaic. In 1951, strain A was obtained from a commercial field of C. P. 28-19 on Georgia Plantation.

This rather widely scattered occurrence of this strain which had not been involved in previous mosaic outbreaks in the state, as well as the fact that it was able to infect varieties such as C. P. 34-120, C. P. 36-105 and C. P. 44-101, which are resistant to strains B and D, aroused the fear that mosaic might become a problem in these varieties, which had become or were becoming the state's major commercial canes. However, following destruction of the more heavily infected fields and selection of mosaic-free fields as sources of seed for new plantings, the disease was reduced to a low level of infection, or in some cases apparently eliminated, and there was no general outbreak of mosaic over the district.

There followed a period of several years when little mosaic was found in commercial fields, but during 1956 greater spread of the disease was observed in some areas in Lafourche and St. Charles Parishes than had occurred at any time since the present varieties had been grown. That the disease should be spreading in N. Co. 310 was not surprising, but the extent of spread in C. P. 44-101 was unexpected. Infection ranging from a trace to as high as 28 percent was found in different fields of plant cane of C. P. 44-101. The disease also appeared in the agronomy test field at Raceland in several varieties classed as resistant, among them C. P. 29-116 and C. P. 48-103. In 24 collections of mosaic made for identifying the strains of virus involved, 3 were identified as strain A and 4 as strain B. No infection was obtained from the other 17 collections in attempted transfers to differential hosts and consequently they were not identified.

In 1957, further efforts were made to identify the "unknown" collections, by use as a differential host a seedling variety that produces distinctive symptom patterns when in-

oculated with different strains of the virus. Infection was obtained on it, and the symptoms resembled those caused by strain F. Strain F, described from C. P. 807 when it became infected with mosaic at Raceland in 1934, had not been encountered since that time. However, whether the strain involved in the current spread is strain F, or a new and undescribed strain, has not been determined definitely. At any rate, it is a "new" strain so far as spread of mosaic in commercial fields is concerned. Collections of mosaic were made in several areas of the sugar district during the summer of 1958 to determine the distribution of the new strain.

Study of the effect of the new strain on yields of C. P. 44-101 and N. Co. 310 began in 1956, and C. P. 52-68, a selection susceptible to mosaic, was included in experiments planted in 1957. The results will be reported after the 1958 harvest.

The extent to which mosaic may spread over the sugar district as a result of the appearance of the new strain of the virus cannot be predicted at this time. The facts that it is able to infect the ordinarily resistant variety C. P. 44-101 and that the acreage of the susceptible N. Co. 310 is being increased point to the possible danger. Also, the susceptible C. P. 52-68 will begin to appear in commercial plantings in 1959.

The best insurance against serious spread of mosaic is for every grower to inspect his fields that are to be used as sources of seed cane and to rogue and destroy infected stools. Encouraging results in reducing incidence of mosaic by roguing were obtained in one area where infection had reached a high percentage. Although it is unfortunate for the Louisiana industry to have to return to roguing as a means of controlling mosaic after a long period during which the disease was held in check by growing only resistant varieties, there appears to be no alternative. This procedure was effective in preventing build-up of the disease several years ago when strain A appeared, and it is hoped will be effective now against the new strain.

Inspection of fields to be rogued for mosaic should begin as soon as stands are well established in the spring, and the infected stools dug out and destroyed. In some years this may be as early as late April, and it should never be later than early May. At least 2 roguings should be made at about 2-week intervals, and preferably a third during June before the cane gets too tall. Recognition of mosaic becomes more difficult and time-consuming after the upper leaves are above eye level. Ordinarily, roguing is recommended only in plant cane; digging out stools of stubble is difficult and expensive. However, if the seed supply of a new variety is limited, as it will be that of C. P. 52-68 next year, roguing of stubble cane is justified.

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[1] Summers, Eaton M., Brandes, E. W., and Rands, R. D. Mosaic of sugarcane in the United States, with special reference to strains of the virus. U. S. Dept. Agr. Techn. Bull., 124 pp. 1948.

[2] Abbott, E. V. Sugarcane disease work at the Houma Station during 1950. Sugar Bull. 29 (23): 392-398. 1951.

UP FRONT

(Continued from page 47)

they are entitled to. Incidentally it is significant to note that the difference in the value of 31,279 tons of sugar on the world market and on the U. S. Quota market at this writing is well over $1,000,000.

If this matter has been handled legally, then the law should be changed. Next time there may be much more involved than 31,279 tons of sugar.

(Continued on page 56)

THE EFFECTS OF VARIOUS LEVELS OF RAW SUGAR IN GROWING-FATTENING RATIONS FOR SWINE

D. M. Thrasher, K. J. Coulon, S. L. Hansard, A. M. Mullins, and G. L. Robertson (Louisiana Agricultural Experiment Station)

Ordinarily, the value of sugar for human consumption prohibits its economical use as a feed for livestock. However, since Louisiana often has an over-acreage of sugarcane, the possibilities of utilizing the raw sugar from such cane through hogs has been investigated.

Sugar is used to a considerable extent in baby pig starters at levels up to 20 percent of the ration. Recent research at L. S. U. with growing-finishing swine showed that rations containing up to 30 percent raw sugar gave satisfactory results from the standpoint of growth rate, feed efficiency, and carcass quality (A. I. Mimeo. Cir. 57-2).

Corn supplies significant amounts of energy, protein, and several vitamins while sugar supplies only energy. Feeding raw sugar is economical, therefore, only when the salvage cost or the purchase price is somewhat below the cost of corn.

The objectives of this experiment were as follows:

1. To compare the results of feeding rations containing up to 50 percent raw sugar with a conventional growing-finishing ration.

2. To compare the free-choice feeding of corn, raw sugar, and a protein supplement with feeding mixed rations containing 0 to 50 percent raw sugar.

3. To determine the effects of feeding high levels of raw sugar on carcass quality, blood sugar level, liver and muscle glycogen, muscle pH, and curing qualities of hams.

Experimental Procedure

Forty-eight Hampshire and Chester White pigs averaging 55 pounds were divided equally according to breed, sex, weight and litter among 6 concrete pens with outside runs and were placed on experiment on December 20, 1957. Lots 1 through 5 were fed complete mixed rations, while lot 6 was free-choice fed. The treatments were as follows:

Lot 1—control ration (no sugar)
Lot 2—20% raw sugar
Lot 3—30% raw sugar
Lot 4—40% raw sugar
Lot 5—50% raw sugar
Lot 6—Sugar, corn and supplement free-choice

The complete rations for lots 1 to 5 and the protein supplement mixture for lot 6 are shown in Table 1. All mixed rations contained 16 percent protein until each lot averaged 100 pounds. At this time, the protein content was reduced to 14 percent for the remainder of the feeding period by decreasing soybean meal and increasing corn. A Hygromycin B supplement was fed for the first 5 weeks of the trial for the control of worms.

As the individual pigs in each lot reached a weight of 190 to 210 pounds, they were slaughtered in the L. S. U. Meats Laboratory for carcass evaluation studies. At this time blood, liver and muscle samples were obtained for blood sugar and liver and muscle glycogen analyses. Muscle samples were taken from the chilled carcasses for pH determinations, and hams from one-half the pigs in each lot were cured for color evaluation and taste studies.

The results of the feeding phase of the study are presented in Table 2. The carcass data, the results of the chemical analyses, and the curing data are given in Table 3.

Summary of Results

1. No digestive disturbances were observed at any time at any level of sugar feeding. Also, there was no evidence of rough hair coats which were observed in the first trial at the higher sugar levels (AI Mimeo. Cir. 57-2).

(Continued on page 54)

TABLE 1.

Composition of the 16 Percent Protein Rations and the Free-Choice Supplement (Lot 6).

Ingredient	Lot 1 %	Lot 2 %	Lot 3 %	Lot 4 %	Lot 5 %	Lot 6 %
Raw Sugar	0	20.00	30.00	40.00	50.00	.....
Ground Corn	74.10	49.60	36.60	24.10	12.10	.....
Alfalfa Meal (17%)	5.00	5.00	5.00	5.00	5.00	20.00
Meat and Bone Scrap (50%)	5.00	6.00	7.00	7.60	8.00	20.00
Soybean Meal (44%)	14.00	17.50	19.50	21.50	23.00	52.35
Salt	0.50	0.50	0.50	0.50	0.50	2.00
Bone Meal, Steamed	0.50	0.50	0.50	0.50	0.50	2.00
Aureomycin-B_{12} Supp.[1]	0.55	0.55	0.55	0.55	0.55	2.00
B-Vitamin Supp.[2]	0.10	0.10	0.10	0.10	0.10	0.40
Hygromycin B Supp.[3]	0.25	0.25	0.25	0.25	0.25	1.25
	100.00	100.00	100.00	100.00	100.00	100.00

[1] Contains 1.8 gms. of aureomycin and 1.8 mgs. of Vitamin B_{12} per lb. Amount fed supplied 20 gms. of aureomycin and 20 mg. of B_{12} per ton of the complete feeds.

[2] Contains 2, 4, 9 and 10 gms. of riboflavin pantothenic acid, niacin and choline, respectively, per lb. Amount fed supplied 4, 8, 18, and 20 gms. of these vitamins, respectively, per ton of the complete feeds.

[3] Contains 2.4 gm. of Hygromycin B per lb. (a worming agent). Fed for only 5 wks. Amount fed supplied 12 gms. of Hygromycin B per ton of the complete feeds.

TABLE 2.

Results of Feeding Various Levels of Raw Sugar to Growing-Finishing Swine.
(Dec. 20, 1957 to March 24, 1958)

Lot. No.	1.	2.	3.	4.	5.	6.
% Raw Sugar in Ration	0	20	30	40	50 Corn, Sugar, Supp. Free-Choice	
No. Pigs per lot	8	8	8	8	8	8
Ave. initial wt., lb.	54.9	55.0	55.1	54.9	54.2	55.1
Ave. final wt., lb.	199.5	199.5	200.4	197.6	199.5	201.0
Ave. daily gain, lb.						
First 42 days	1.63	1.85	1.80	1.79	1.96	1.67
Last 52 days	1.83	1.72	1.79	1.78	1.87	1.82
Entire Experiment	1.73	1.79	1.80	1.78	1.92	1.75
% increase in gain	.....	3.5	4.0	2.9	11.0	1.2
Ave. daily feed, lb.						
Raw Sugar	.....	1.22	1.84	2.37	2.94	2.46
Corn	4.54	3.30	2.49	1.66	0.94	2.32
Supplement	1.30	1.60	1.80	1.89	2.00	1.00
Total	5.84	6.12	6.13	5.92	5.88	5.78
Feed per 100 lbs. gain, lbs.						
Raw Sugar	.....	68.5	102.5	132.7	153.0	141.0
Corn	262.2	184.3	138.6	93.0	48.8	132.6
Supplement	75.1	89.5	100.4	106.0	104.2	57.5
Total	337.3	342.3	341.5	331.7	306.0	331.1
Feed Cost per 100 lb. gain[1]	$10.52	$11.06	$11.10	$10.91	$10.19	$10.36

[1] Raw sugar arbitrarily priced at $3.00 per cwt. Other ingredients figured at prices paid during the test.

TABLE 3.

Effect of Sugar Feeding on Carcasses, Blood and Tissue Analyses, and Curing Properties of Hams.

Lot No.	1	2	3	4	5	6
% Sugar	0	20	30	40	50	free-choice
Carcass Data						
Ave. Dressing %	75.5	75.9	75.3	75.5	76.1	76.6
Ave. backfat, in.	1.68	1.69	1.68	1.74	1.76	1.74
Ave. liver wt., lbs.	3.5	3.8	3.5	3.5	3.6	3.4
Ave. 4 lean cuts, % [1]	49.2	49.2	48.3	47.8	48.2	47.7
Ave. pH Long, Dorsi	5.54	5.47	5.46	5.45	5.48	5.46
Ave. pH Psoas Major	6.08	6.02	5.72	5.88	5.89	5.71
Chemical Analyses						
Ave. Blood sugar, mg. %	89.5	90.8	90.4	93.8	86.4	96.4
Ave. Liver glycogen, %	0.27	0.49	0.59	0.34	0.28	0.65
Ave. Muscle glycogen, %	0.08	0.12	0.14	0.12	0.18	0.19
Cured Hams [2]						
Color desirability score [3]	5.46	5.92	5.88	6.59*	6.03*	6.09*
Color uniformity score [3]	5.17	5.38	5.44	6.09	5.84	5.94

[1] % of chilled carcass weight.
[2] Hams of 4 pigs from each lot were cured.
[3] Hedonic scale used: Score of 1 is highly undesirable; score of 8 is highly desirable.
* Significantly higher than Lot 1 at 5% level.

The B-Vitamin supplement, which was not fed in Trial 1, probably helped to prevent this condition.

2. Rate of gain was slightly improved (not significant) when 20 to 50 percent sugar was added to the basal ration. The greatest difference between the control and the sugar-fed pigs was seen during the first 42 days of the feeding period. The control pigs gained at approximately the same rate as the pigs receiving sugar during the last 52 days.

3. Pigs receiving raw sugar, corn, and supplement free-choice (Lot 6) gained at about the same rate as the control pigs but consumed a daily ration containing only 10 percent protein (43 percent sugar, 40 percent corn and 17 percent protein supplement). All the mixed rations averaged approximately 15 percent protein over the entire test period.

4. The group receiving 50 percent sugar gained 11 percent faster than the control group and required 9 percent less feed per 100 pounds of gain. The pigs on the lower levels of sugar gained at approximately the same rate as the control pigs with no difference in feed efficiency.

5. Differences among lots in dressing percent, backfat thickness, live weight, percent 4 lean cuts, and muscle pH were not significant. Pigs on the higher sugar levels had especially firm carcasses.

6. Blood sugar analysis gave no evidence of diabetic pigs in any lot. Differences in liver and muscle glycogen were not significant; there was great variation within groups.

7. Color desirability scores of cured hams were significantly increased by feeding raw sugar and color uniformity scores approached significance. A taste panel could detect no differences among groups in saltiness, tenderness or juiciness.

8. Assuming that rations high in sugar are no more efficient than high corn rations, and that corn and a 40% supplement are priced at $3 and $4 per cwt., respectively, then raw sugar would be worth no more than $2.75 per cwt. as a feed for swine. With corn priced at $2.50 per cwt. sugar would be worth no more than $2.10 per hundred. This is due to the fact that corn supplies some protein and some vitamins, while sugar supplies none of these nutrients.

SUGAR MARKET STATISTICS THROUGH NOV. 10, 1958

	Today	1 Month Ago	1 Year Ago
QUOTA RAWS DELIVERED NEW YORK	6.33	6.45	6.10
QUOTA RAWS DELIVERED NEW ORLEANS	6.27	6.41	6.06
RESIDUAL SPOT RAWS (In Cuba)	3.42	3.42	3.50

SUGAR FUTURES No. 6
(Closing Bid Prices)

	Mch.	May	July	Sept.
Today	5.73	5.74	5.79	5.83
1 Month Ago	5.66	5.70	5.75	5.78
1 Year Ago	5.52	5.56	5.61	5.63

OFFSHORE RECEIPTS AT NEW ORLEANS
(Long Tons, 2,240 lbs.)

	Oct. 10-Nov. 10 1958	Oct. 10-Nov. 10 1957	Jan. 1-Nov. 10 1958	Jan. 1-Nov. 10 1957
American	30,257	21,081	412,836	353,673
National (Godchaux)	None	None	168,059	156,499
Colonial	10,949	None	145,614	136,150
Henderson	9,979	7,998	104,948	108,460
Southdown	None	None	42,946	34,546
South Coast	3,098	None	67,183	53,634
Supreme	None	None	118,556	92,981
Totals	54,283	29,079	1,060,142	935,943

Acknowledgments

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Mrs. Nina Schales for technical assistance.

—o—

IN WASHINGTON

(Continued from page 48)

the government's previous actions, this fourth step gave the New York sugar market its coup de grace.

There is a slight difference of opinion among some master minds in Washington as to whether U. S. Department officials pointed this possibility out to the Peruvians or the Peruvians first brought the matter to the attention of the U. S. Department of Agriculture.

Also there is a third element here which mutters that neither party could have thought of it all by themselves. Anyway the Peruvians are happy; we presume the cane refiners are happy, and the U. S. Department of Agriculture seems to be happy. It was a hard fight, won at the expense of many thousands of sugar cane and sugar beet farmers in the good old United States, who because of the low price of sugar and the high price of nearly everything else, have a hard time keeping in production.

We wonder what price Peru will charge to sign the new International Agreement which will become effective January 1, 1959.

UP FRONT

(Continued from page 51)

Molasses Imports

The USDA Foreign Agricultural Service says:

"Since 1950, industrial molasses imports have ranged from 370 million gallons in 1951 to 570,000,000 in 1955.

"The United States uses far more molasses than any other country in the world. It is the major importer, followed by the United Kingdom and Japan. These countries alone take more than four-fifths of the world imports of industrial molasses. U. S. use of molasses averaged 450,000,000 gallons annually for the 3 years 1955-57. Of this quantity, about one-third was produced domestically and two-thirds was imported."

Lift Marketing Restrictions

Just as we go to press the news is received from Washington that the Sugar Division has lifted mill marketing allotments in the Mainland Cane Area. Louisiana and Florida processors may now market all sugar during the balance of 1958 without regard to mill marketing allotment.

The Sugar Division has also declared a 50,000 ton deficit in the beet area and increased the Cuban 1958 quota by 50,000 tons.

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in the interests of the Domestic Sugar Cane Industry

THE SUGAR BULLETIN

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Lloyd L. Lauden, Agronomist and Field Representative

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UP FRONT WITH THE LEAGUE

by A. W. Dykers

Decisions

The Sugar Division must have been a busy place on November 13th. On that day a deficit of 50,000 tons was declared to exist in the U. S. beet sugar quota; marketing restrictions were lifted for both mainland cane and mainland beet sugar processors, and the beet area deficit of 50,000 tons was awarded to Cuba.

In lifting marketing restrictions for mainland processors, the U.S.-D.A. said that marketing allotments were no longer necessary "to assure processors equitable marketing of sugar within the quota for the area." Mainland cane sugar supplies, they said, are approximately equal to the 720,805 ton quota for 1958 and advice from beet sugar processors "indicates the maximum quantity of beet sugar to be marketed in 1958 is unlikely to exceed the quota assigned to the Domestic Beet Sugar Area." This, of course, refers to the quota after deducting the 50,000 tons given to Cuba.

It is interesting to note that the 50,000 ton increase in the Cuban quota has had very little effect on the market. Raws sold in New York at 6.33 before the release and are selling at 6.33 at this writing. As stated in our last report, the deal that broke the Old Mule's back was the 31,279 ton windfall to Peru.

The USDA Harvester

The U. S. D. A. Experimental Cane Combine is operating in the fields at the U. S. D. A. Houma Station. This harvester cuts, cleans, and loads cane directly into the wagon. All growers and processors are invited to see this harvester operate. The machine can be seen on Monday, Wednesday, Thursday, and Friday between the hours of 10-12 a. m. The machine can be seen in operation at other times providing arrangements are made with Mr. Russell Ramp, U. S. D. A. Engineer at Houma, prior to the time of your visit.

Weekly Average Prices

The weekly average prices issued by the Louisiana Sugar Exchange since the start of the 1958-59 Louisiana pricing period have been as follows:

Week ending October 16, 1958
Raws 6.41, Blackstrap nominal.

Week ending October 23, 1958
Raws 6.43, Blackstrap 13.00

Week ending October 30, 1958
Raws 6.45, Blackstrap 13.00

Week ending November 6, 1958
Raws 6.43, Blackstrap 13.00

Week ending November 13, 1958
Raws 6.285, Blackstrap 12.54

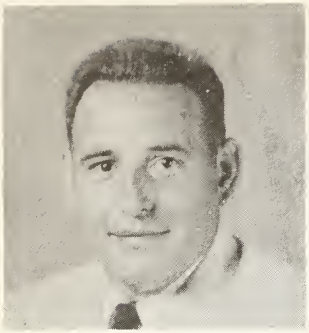
Week ending November 20, 1958
Raws 6.25, Blackstrap 12.25

Week ending November 27, 1958
Raws 6. 255, Blackstrap 12.25

Help Wanted

OVERSEER for large Louisiana sugar cane plantation.

Write to 0-1—The Sugar Bulletin, 415 Whitney Bldg., New Orleans 12, La., giving age, experience, family status, etc.



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

Cane Breeding

The cane breeding season is now underway, according to a letter recently received from Mr. Preston H. Dunckelman of Canal Point, Florida. Mr. Dunckelman moved from Louisiana to the U.S.D.A. Canal Point, Florida Cane Breeding Station last year to breed new sugar canes for Louisiana. During the 1957 cane breeding season, he produced about one-half million seed. It is important to point out that each seed produces a separate and distinct variety of cane.

Mr. Dunckelman has high hopes for this cane breeding season. Already a large number of crosses involving good parent canes have been made. Plans have been made to produce many crosses in which both parents have high sugar. It is hoped that this approach will yield one cane that has very high sugar as well as high field yield.

Special attention will be given parents which mature early. Louisiana could use a good high yielding, early maturing cane which would be generally adapted throughout the belt. A variety which would give high tonnage and high sugar at an early date would allow grinding to begin and end earlier thereby minimizing the dangers of freezes.

In addition to the work being conducted on breeding for early maturity, emphasis is also being given to developing a variety that has more cold resistance than N.Co. 310. N.Co. 310 is the most cold tolerant variety released in Louisiana. In this connection, Mr. Dunckelman plans to cross Co. 421 x Co. 312. This is the cross from which N.Co. 310 was produced in India. This cross has never been made either in Florida or in Louisiana to date. Both parents are now flowering at Canal Point and it is hoped that the seedlings from this cross will yield something far better than N.Co. 310.

The future of the Louisiana sugar industry is more dependent on the cane breeding program than any other single factor. Additional funds were obtained through Washington this year to expand the breeding program. The Louisiana sugar industry, through the League, gave additional money this year to help erect a new cane breeding house at Canal Point and a new seedling greenhouse at Houma. The cane breeding house at Canal Point is half completed now and plans are that when completed, the structure will be 200 feet long. Mr. Dunckelman is now using the completed portion for some of the crosses being made. The head house for the new greenhouse at Houma is completed and work should begin soon on the glass enclosure. The plans are to build another 25 x 100 foot glass house.

With the increasing number of seed being produced by the U. S. D. A. and L. S. U. each year, additional space will be needed in the fields to fully utilize the expanded breeding program. At present individual seedlings are placed in the field every 15 to 20 inches apart. Each stool 15 to 20 inches apart is a separate

(Continued on page 63)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

The five and a half hour talkathon, Estimate of Consumption Hearing, ended abruptly amid the wail of air raid sirens and the stern commands of steel-helmeted air raid wardens to immediately vacate the premises, —the premises being the Thomas Jefferson Auditorium of the United States Department of Agriculture. Dr. Arturo M. Manas, Representative of the Cuban Sugar Stabilization Institute of Havana, Cuba, was on the stand and had just completed the opening paragraphs of his statement when Harvell J. (Buddy) Craig, Assistant to the Director of the Sugar Division, United States Department of Agriculture, who was Acting Sergeant at Arms of the Hearing, rushed down the aisle and hurriedly whispered something to the presiding officer, Lawrence Myers. Myers, whose complexion changed from healthy tan to an off-shade white, quickly regained his composure, grabbed the microphone and said;—"Excuse me Mr. Manas, there is an air raid and we have been ordered to leave the building immediately." Within seconds lights were turned out and the people in the auditorium joined the stream of United States Department of Agriculture employees heading for the exit on C Street. Inasmuch as no practice air raid had been scheduled, the wardens were more than usually efficient in emptying the building. After everyone was kept standing in the street for about fifteen minutes they were told by the warden to go home. The raid was all a mistake. The sirens were accidentally set off by telephone workers who were tying in the Montgomery County, Maryland, Civil Defense system with that of the District of Columbia. Anyway, it took thirteen down town Washington air raid sirens, the clanging of bells and the moaning of klaxons in the halls of the United States Department of Agriculture to bring the Hearing to a close.

Mr. Frank A. Kemp, President of Great Western Sugar Company, Denver, Colorado, who has acted as spokesman for the domestic sugar producers many times during the past quarter of a century, was again unanimously nominated "Mr. America" by domestic producers and appeared as the spokesman for Mainland Cane, U.S. Beets, Hawaii and Puerto Rico. It was the concensus of all who heard him, that Mr. Kemp made the most eloquent and effective presentation of his long and distinguished career. The text of his testimony, if it is not printed in a later issue of the Bulletin, will be made available in mimeographed form, upon request.

William H. Doherty, Washington attorney, formerly associated with Hawaiian Sugar Planters' Association, appeared in behalf of Sugar Magazine. Mr. Doherty presented impressive statistics to back his contention that the administrator of the Sugar Act has been given "more and more protection to consumers, and less and less to the producers."

The industrial users of sugar, as has been their custom for the past decade, took exception to the Sugar

(Continued on page 68)

FIRE ANT ERADICATION PROGRAM INCREASES DAMAGE BY THE SUGACANE BORER

By W. H. Long,[2] E. A. Cancienne,[3] E. J. Concienne,[2] R. N. Dopson [4] and L. D. Newsom [2]

The fire ant, *Solenopsis saevissima* var. *richteri* Forel, has been virtually eliminated from several thousands of acres of Louisiana during 1958 by the broadcast application of 10 per cent heptachlor granules at the rate of 20 pounds per acre. Although this treatment gave almost immediate relief from the fire ant, several reports from sugarcane growers indicated that an accompanying increase in damage from the sugarcane borer, *Diatraea saccharalis* (F.) had resulted from the treatment.

This paper reports the results of a survey conducted October 6-9, 1958 to determine whether the use of heptachlor against fire ants actually did have any measurable effect on populations of sugarcane borer.

METHODS.—A total of 80 samples were examined from the same number of fields located in three southern parishes of Louisiana. Half of these samples were taken from heptachlor-treated fields and half from nearby fields which had received no heptachlor treatment.

Heptachlor-treated fields were always compared with check fields in which other conditions were as nearly similar as possible. The sugarcane variety C. P. 44-101 was the only one examined in three of the four blocks surveyed (see Table 1). Only fields of C. P. 36-13 were examined in Lafayette Parish, where relatively little C. P. 44-101 could be found.

No fields sampled in Lafayette Parish or in Block #1 of St. Mary Parish had received any insecticide treatment for control of the sugarcane borer. Fields examined in Iberia Parish and in Block #2 of St. Mary Parish had received applications of ryania for borer control, however the amount of borer damage found in these fields indicated that little benefit resulted from such treatment.

Fields to be sampled were selected in a systematic manner to prevent bias through possible foreknowledge of the borer infestation present. No field within a heptachlor-treated block was ever compared with a check field outside the block that was more than five miles or less than one-fourth mile distant. No two fields were less than one-fourth mile apart except a few in and around Block #2 of St. Mary Parish where all sampled fields were separated by at least five cuts of standing sugarcane.

A ten-stalk sample was taken from each field by random selection of a single stalk from each of ten stools one pace apart and between 20 and 30 paces distant from the nearest headland. Stalks were carried to the headland where they were topped and stripped of leaves before the total numbers of joints and joints bored by the sugarcane borer were observed and recorded.

RESULTS.—Table 1 shows an average of 64 per cent of all joints were tunneled by sugarcane borers in the heptachlor-treated fields, while 44 per cent were tunneled in fields which received no heptachlor treatment for fire ant control. The difference between these figures is statistically significant at the one per cent level.

Table 2 shows the results of another survey conducted independently by the Plant Pest Control Branch of the U. S. Department of Agriculture.

Results from the two surveys are in close agreement.

CONCLUSIONS.—Two pounds of actual heptachlor broadcast in one application during the spring and early summer over sugarcane fields for fire ant control caused an in-

crease in crop damage by the sugarcane borer. It is reasonable to assume that this effect resulted from a treatment which suppressed development of populations of natural enemies of the borer more effectively than it suppressed borrer populations.

Studies are in progress to determine what predators are of most importance in suppressing the sugarcane borer under natural conditions.

[1] Assistance and cooperation from Mr. Glen Worley, Plant Pest Control Branch, U. S. Department of Agriculture, was of great help in making this survey and is much appreciated. Acknowledgement is also made of the assistance given by Mr. P. J. DeGravelles, County Agent of St. Mary Parish.

[2] Louisiana State University Agricultural Experiment Station.

[3] Louisiana State Entomologist.

[4] Plant Pest Control Branch, U. S. Department of Agriculture.

IN THE FIELD

(Continued from page 60)

and distinct variety. At selection time the whole stool is selected and replanted to the fields. The space required to plant the individual seedlings each year at Houma is 10 to 12 acres. Since initial selections are not made until the seedlings are in stubble 20 to 24 acres are usually required at L. S. U.

A new method of planting seedlings to the field for selection is now under test. This method, called bunch planting, holds hope for utilizing all the seed produced. Rather than planting a single seedling every 15 to 20 inches, a bunch of seedlings, as many as 10 to the bunch, is planted every 15 to 20 inches apart. It is hoped that natural competition will help eliminate the weaker and poorer canes. At selection time only the best one stalk will be selected from a bunch for replanting. The data to date show that this method holds some promise in the Louisiana cane breeding program.

Table 1.

Per cent of joints bored by the sugarcane borer, **Diatraea saccharalis** (F.), in sugarcane from heptachlor-treated and nearby check fields, Louisiana, Ocotber 6-9, 1958.

Locality	Per cent of Joints Bored		Number of Fields Sampled	
	Heptachlor	Check		
St. Mary Parish				
Block #1	72	44	28	total
Block #2	58	60	16	total
Iberia Parish				
Block #1	61	40	20	total
Lafayette Parish				
Block #1	62	33	16	total
	64 (avg.)	44 (avg.)	80	(total)

Table 2.

Per cent of joints bored by the sugarcane borer, **Diatraea saccharalis** (F.), in sugarcane from heptachlor-treated and nearby check fields, Louisiana, October 7-15, 1958.

Locality (Parish)	Per cent of Joints Bored		Total Joints Counted
	Heptachlor	Check	
St. Mary	57	44	24,339
Lafayette	65	31	10,099
Iberia	43	30	5,027
West Baton Rouge	60	44	5,875
	56 (avg).	37 (avg.)	

RECENT ATTEMPTS TO ESTABLISH SUGARCANE BORER PARASITES IN LOUISIANA

Leon J. Charpentier, Entomology Research Division, Agr. Res. Serv., U.S.D.A.

(Paper presented at Fifth Annual Meeting of the Entomological Society of America, Memphis, Tennessee on December 2-5, 1957.)

Of all the insects that attack sugarcane in the continental United States, the sugarcane borer *(Diatraea saccharalis* (F.)*)*, a pest of foreign origin, is the most destructive. In Louisiana alone it causes an estimated annual loss of about 5 million dollars. A number of attempts have been made at the Houma, La., Laboratory to obtain effective biological control of the borer. Thirteen species of parasites that attack this insect and related species in this country or in foreign countries have been introduced at various times since 1915, with different degrees of success. Two tachnids, the Amazon fly *(Metagonistylum minense* Towns.) and the Cuban fly *(Lixophaga diatraeae* (Towns.)*)*, were the most effective and were recovered for several years, an indication of their ability to survive the field conditions and winters that prevail in Louisiana. However, neither of these parasites increased sufficiently to be of value in borer control.

Climatic conditions are not as favorable for the biological control of the borer in Louisiana, where the insect has a winter dormant period, as they are in Florida and other areas where all stages are present throughout the year and the parasites can breed continuously. However, present cultural practices and a cycle of relatively mild winters are considered to be more favorable for the establisment and possibly maintenance of larval parasites than they were during the periods 1915-20 and 1929-41, when most of the introductions were made.

It now appears likely that the Amazon and Cuban flies could become adapted to Louisiana conditions and be of economic value in the control of the borer. Also the successful introduction of some of its parasites in southern Florida and certain areas in the Caribbean coupled with the increased costs of insecticide treatments, has stimulated interest among growers for the use of parasites here. Consequently additional introductions have been made.

In 1953 releases were made, and the parasites became successfully established. This project was expanded during the next three years Data on the 1953-4 releases and recoveries, a possible explanation of the success in establishment, and technique for handling the parasites have been published (Charpentier 1954, 1956). This paper presents data on the 1955 and 1956 introductions.

In 1955 from April 27 to October 2 a total of 25,748 parasites, reared from puparia purchased by the cooperating growers from J. A. Carmichael, Verdant Vale Estate, Arima, Trinidad, B.W.I., were released on 19 plantations at the rates of 5, 10 and 25 per acre, based on the severity of the borer infestation. In addition 101 Cuban flies were released in a rice field heavily infested with the sugarcane borer. Many of the parasites were released too late in the season for maximum effectiveness. From September 21 to November 2 ninety release areas were surveyed for establishment. There were no recoveries of the Amazon fly, although it had been recovered in a preliminary examination in August. Although the Amazon fly made up only 36 percent of the release number in 1954, the average percentage parasitization by it during that

Table 1.
Releases and recoveries of parasites of the sugarcane borer in the Houma, La., area.

Year	Number of Parasites Released		Number of Borers and Parasites Collected	Percent Parasitization by—	
	Amazon Fly	Cuban Fly		Amazon Fly	Cuban Fly
1955	1,043	24,705	3,203	0	19
1956	2,622	27,411	972	0	33
Total or average	3,665	52,116	4,175	0	26

fall was 16 as compared with 13 for the Cuban fly. There were no recoveries of the Cuban fly in the rice field.

During the 1956 season 30,033 parasites were released on 15 plantations, and during the fall 85 representative release areas were surveyed. The Amazon fly apparently failed to become established. The Cuban fly, as in every other release year, was recovered on all the plantations. On a group of 7 plantations south of Houma there was a 50-percent parasitization or higher in 18 of the 36 fields surveyed, with an average of 46 percent for the group. The 1955 parasitization for the same area was 34 percent. As in previous years, there were no significant differences in percentage of parasitization for the different release rates. The releases and recoveries for both years are summarized in table 1.

Surveys to determine spread have shown that the parasite became established in fields 1/2, 1, and 2 miles from the nearest release points.

The Cuban fly has demonstrated ability to survive the winter fields of unshaved summer plant. Appreciable numbers have survived a minimum temperature of 23°F. in such fields. The best results in the 1954 season, a 75-percent parasitization, were obtained from an overwintering population on a plantation that had received 548 parasites in 1953 and none in 1954. In another field 1/3 mile away there was a 46-percent parasitization from the same population. The highest parasitization of the 1955 season, 87 percent, was also recorded in a 1954 unshaved field of summer plant in which a 1954-5 overwintering population was augmented with some 1955 liberations. By December 1956 only on one of the many release plantations had the Cuban fly been able to maintain itself in cane trash left in the fields at harvest.

In the 1955 harvest season parasitization and borer-infestation records were obtained on 100 stalks in each of 15 fields on 8 plantations. The percentage of joints bored appeared to be higher in fields initially colonized that year than in fields that received an accumulated benefit from the previous year's releases and were also colonized in 1955. In 1956 records were taken in 31 fields on 11 plantations on which the Cuban fly had been the most effective for the previous 2 or 3 years. In 13 fields examined for borer-killed deadhearts in the spring the average parasitization the previous fall had been 43 percent. The 8 fields with this average or above had a borer infestation 50 percent less than the 5 fields with below-average parasitization. Examinations made at time of harvest in all fields showed an average parasitization of 46 percent with a borer infestation of 19 percent.

Parasites of four species of stalk borers and pink bollworm bred at the Moorestown, N. J., laboratory from stock obtained from India were tested against the sugarcane borer in 1954 and 1955. A total of 27,569 parasites—10,116 of *Apanteles angaleti* Meus., 11,012 of *Bracon brevicornis* Wesm., 4,756 of *Chelonus* n. sp., and 1,685 of *Chelonus heliopae* Gupta—were released on 10 plantations and in a rice field in the Houma area. Although over 1,000 borer stages were collected in the fall and

(Continued on page 67)

50,000 TON BEET DEFICIT DECLARED, QUOTA FOR CUBA INCREASED 50,000 TONS

On November 13th the U. S. Department of Agriculture announced a 50,000-ton increase in the 1958 quota for Cuba and an offsetting decrease in the proration of quota deficits previously made to the Domestic Beet Sugar Area.

Department officials pointed out that this increase in Cuba's quota will permit 50,000 tons of Cuban sugar to be imported within the 1958 quota, all or most of which otherwise would have been imported in December for refining and storage until Jan. 1, 1959, for charge to the 1959 quota pursuant to the notice issued by the Department on Oct. 22 (USDA 2942-58).

Prior to taking this action, the Department on Nov. 6 asked all beet sugar processors to indicate the maximum quantity of beet sugar which they would market in 1958 and the information received indicated that marketings this year would be less than the new adjusted quota.

The full Statement of Bases and Considerations for this reproration of deficits follows:

"This action prorates to Cuba 50,000 tons of the deficit in quotas of other areas previously prorated to the Domestic Beet Sugar Area.

"This year unexpectedly large deficits were experienced by three domestic areas, Hawaii, Puerto Rico, and the Virgin Islands. The shortfalls, which totalled 776,659 tons, were prorated to the Domestic Beet Sugar Area, the Mainland Cane Sugar Area, and Cuba.

"The sugar beet area received a proration of 343,771 tons which when added to its own basic quota of 1,998,717 tons resulted in an adjusted quota of 2,342,488 tons. Sugar beet processors adapted their marketing programs to the increased opportunities and sold practically all old-crop sugar before new-crop sugar became available in volume late in October.

"The new crop has now progressed sufficiently to indicate that the sugar beet industry will not be able to market its full quota this year and retain a sufficient reserve of sugar to assure adequate supplies for its customers next year prior to the fall harvest. Advice recently received from beet sugar processors indicates that marketings this year will be less than the present adjusted quota. Accordingly, a reproration of 50,000 tons is being made.

"It also appears that the Mainland Cane Sugar Area will not be able to market sugar in 1958 in excess of its quota of 720,805 tons, which includes 105,781 tons resulting from the proration of deficits in the quotas of offshore domestic areas. Accordingly, no part of this reproration is being made to the Mainland Cane Sugar Area.

"Pursuant to section 204 (a) of the act, the deficits in the mainland quotas for Hawaii, Puerto Rico, and the Virgin Islands totaling 776,659 short tons, raw value, as previously determined, are herein reprorated by prorating 153,759 tons to domestic areas able to market additional sugar on the basis of the quotas for such areas as established in Sugar Regulation 811, Amendment 8 (23 F. R. 8019) and then by prorating 622,900 tons to such domestic areas to the maximum extent they appear able to market such additional quantities and to Cuba."

PARASITES

(Continued from page 65)

winter surveys of 1954-6 to determine possible establishment in all release fields, none of the parasites were recovered.

Agathis stigmaterus (Cress.), a borer parasite introduced from Florida, was recovered in 1956 in an area where 68 adults had been released in 1944. Three unemerged cocoons were collected while searching for other parasites. This wasp has been introduced from South America in the early 1930's and is now generally established in southern Florida. It appears to be of some economic value in borer control in that State.

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Charpentier, Leon J. 1954. 1954 studies of parasites for sugarcane borer control in Louisiana. Jour. Econ. Ent. 49 (2) : 267-8.

[1] These studies were conducted in cooperation with the South Coast Corp., Southdown Sugars, Inc., Milliken and Farwell, Inc., Valentine Sugars, Inc., Lafourche Sugars, Inc., The J. M. Burguieres Planting Company, Hughes Breaux, The Louisiana Agricultural Experiment Station, and the American Sugar Cane League of the U.S.A.

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IN WASHINGTON

(Continued from page 61)

Act and to its administration. They also severely criticized everyone directly or remotely connected with the domestic production and marketing of sugar. In a somewhat bewildered Alice in Wonderland manner, they proposed what they termed a REALISTIC sugar quota of 9,600,000 short tons raw value for the continental United States for 1959.

Our good friend from Cuba Dr. Manas, in past years has usually appeared as the last witness at the Hearing, and by his well chosen remarks has poured oil on the troubled waters stirred up by the charges and counter charges of conflicting witnesses. On this occasion, however, we will never know what Dr. Manas would have said, because he was stopped before he started by the false air raid alarm.

Several persons who attended the hearing were heard to remark that the air raid alarm should have been sounded earlier in the afternoon while one individual was discoursing at great length on many subjects which no doubt were of great interest to him, but were not even remotely connected with the 1959 sugar requirements of the United States.

Beet Production

Sugar beet production during 1958-59 is expected to be 16.3 million tons, according to the Foreign Agricultural Service of the U.S.D.A. This is 279,000 tons less than last season.

The U. S. beet crop suffered from unfavorable growing conditions early in the season. However, conditions improved in August and September, and the yield is now expected to be 16.9 tons per acre. While this is lower than last season's yield of 17.7, it is higher than earlier forecasts.

In Canada, beet production is officially predicted at 1,257,000 tons, 19.2 percent above last year's crop of 1,054,000 tons. Most of Canada, especially the large beet area, has had good growing weather.

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THE SUGAR BULLETIN

l. 37 — No. 6 DECEMBER 15, 1958

icial Bulletin of the American Sugar Cane League of the U. S. A

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LOUISIANA SUGAR CANE BAGASSE

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Published on the First and Fifteenth of each month
in the interests of the Domestic Sugar Cane Industry

THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

The Official Organ of the American Sugar Cane League of the U. S. A.

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Josiah Ferris, Manager

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UP FRONT WITH THE LEAGUE

by A. W. Dykers

Season's Greetings

"There's a song in the air! There's a star in the sky!
There's a mother's deep prayer and a baby's low cry!
And the star rains its fire while the beautiful sing,
For the manger of Bethlehem cradles a King!"

May we take this opportunity to wish all of you a very Merry Christmas and a Happy New Year!

Winners

In this issue we are printing the pictures of the winners in the 1957 sugar cane high yield program sponsored by the American Sugar Cane League and the Louisiana State Agricultural Extension Service.

Back in September when the High Yield Awards Luncheon was held in New Orleans, Bronier Thibaut, President of the League, said "In winning High Yield Awards these people are pointing the way to more profitable cane production for all of us. I am sure that the co-sponsors of the Awards Program join me in expressing appreciation of their good work."

The Louisiana sugar industry is, of course, indebted to these farmers and to the many other men who point the way to increased production. Let us hope that next year these same men will increase their yields to even higher levels and that their neighbors will do likewise. We think that we should point out for the record that all of the High Yield Awards winners are reported to have followed very closely the recommendations of the U. S. D. A. and the Louisiana State University experiment stations. This seems to us to be proof positive that it pays to adopt good farming practices.

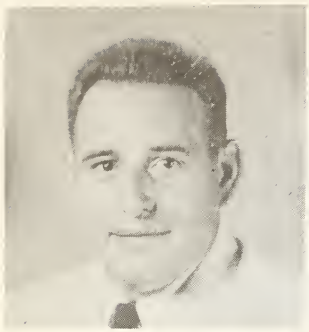
M. L. Marquette

The Louisiana Sugar Industry, and especially the Western part of the sugar belt, suffered a real loss on December 2nd, 1958 when M. L. Marquette, Division Manager of the South Coast Division at Oaklawn, died after a lengthy illness. At the time of his death Mr. Marquette was the President of the Louisiana Sugar Producers Club (Western Division) and we knew him as a tireless worker for the betterment of the Louisiana Sugar Industry.

We read an account of the activities of this man in the Franklin *Banner-Tribune* a day or two after his death and it was then that we learned of the amazing number of civic enterprises that "Mike", as his friends called him, was actively engaged in. Listing them took the better part of a column in the *Banner-Tribune.*

That he had to die at the age of fifty-three was regrettable, but Mr. Marquette accomplished more for his fellow man during the short time allotted to him than most of us could accomplish in two such lifetimes. We

(Continued on page 78)



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

Even though the Louisiana cane harvest is the most mechanized in the world there has been much emphasis placed on developing new harvesting equipment this year.

Thomson Machinery Co., Inc., long time developers of cane harvesting equipment, have come up with another addition, the Junior Hurry-Cane Harvester. The J & L Engineering Co., Inc. put into the fields this year a new type lightweight Cane Master Harvester. Cary Iron Works of Opelousas, La. designed and constructed an experimental cane combine which has been operating a good part of the harvesting season. Mr. S. A. Thornton, of Jeanerette, La., is now building a cane combine of a new design which will be in the fields before the harvest is completed. The U. S. D A. Expermimental Harvester has undergone some changes this year and is presently operating in the Houma area.

The harvester manufacturers and developers are certainly listening to the pulse of the industry. Some of the new features of the above mentioned harvesters are better pick up attachments, smaller overall weight, trash cleaning devices, and direct loading of cane.

This harvest has established beyond any doubt the value of clean cane. The lack of mud and trash on the cane ground this year is partly responsible for the excellent yields of sugar per ton mills are receiving. Daily yields of 200 or more pounds of sugar per ton are not uncommon this week. A few mills will average for the season yields of 190 or more pounds of sugar per ton.

If lack of mud and trash on cane is partly responsible for the excellent yields of sugar per ton received this year, it certainly is important that the industry continue to encourage developers and manufacturers to do everything possible to develop an effective cane cleaning device for harvesters. There are not many harvesting seasons like this one. Usually the industry is plagued with mud and trash.

With the wide acceptance of N.Co. 310 generally throughout the belt, because of its superior yielding ability, harvester manufacturers are steadily making improvements to the pick up attachments.

It is the opinion of the writer that when a variety is developed which has a higher yielding potential than N.Co. 310 it will also lodge. If this is true, and there are many factors which point this out, the industry should ready itself. With the constant increases in cost of materials and labor the industry will not continue to profit with present yields. It is conceivable that Louisiana will some day grow varieties very similar in growth habit to the most important variety being grown in Florida today, CL. 41-223, a variety which lodges very badly by Louisiana standards, but by the same standards would yield almost 100 per cent more cane per acre.

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

According to officials of the U. S. Department of Agriculture's Sugar Division, there is no need for a preliminary 1959 marketing allotment in the mainland cane area.

The high quota for the area and the short crop due to a succession of freezes in the early part of the year which seriously damaged sugar cane in Louisiana and Florida make it unnecessary to establish preliminary mill quotas for the early part of 1959.

An effort is being made to schedule a hearing in New Orleans for either the last week in February or the first week in March 1959, to determine individual mill allotments for the area. Sugar Division Director Lawrence Myers is keeping one eye on the progress of the current harvest and the other eye on the weather, because he must first decide whether or not any mill marketing allotments will be required in 1959.

In a talk given before the annual meeting of the Hawaiian Sugar Planters' Association, December 1958, in Honolulu, Hawaii, Mr. Myers said in part — "The past two years have seen most unusual and excessive strains put upon the Sugar Act Program. In 1957 world supplies were very short and world prices rose to high levels. It was vital to the sugar economy of the whole world that we prevent a hoarding movement on the part of our U. S. consumers. Fortunately, our domestic consumers bought in moderation. The Puerto Rican drought in 1957 resulted in a short crop and large deficit reallocations from Puerto Rico to the other domestic areas. This tended to shorten supplies in the northeast and to increase them in the west. In 1958 a continuation of the Puerto Rican drought and the large cut in the Hawaiian crop as the result of your strike further unbalanced supplies in the continental United States. Fortunately it has been possible to cope with these extreme conditions, and those of us in the Department of Agriculture who have had to deal with them are inclined to take the position that we have seen everything now."

Soon after Mr. Myers returned from the "exotic attractions of the Hawaiian Islands" he was confronted by another very serious sugar problem. For several months there have been daily news reports of the spreading revolt in Cuba, headed by Fidel Castro. In our column of October 15, 1958, we reported that Cuban sugar producers were apprehensive for their mills and fields of sugar cane because of increased guerilla activity. With each passing day the seriousness of the Cuban political situation is becoming more and more significant. Normally new crop production in Cuba begins about January first, but this year well informed sources say there is very little preparation being made for production because of the active fighting in Oriente province where a number of the best mills are located.

The fear prevails now that even

(Continued on page 80)

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John Best, Lobdell, La.

Mitchell P. Brien, Houma, La.

L. G. Crochet, Labarre, La.

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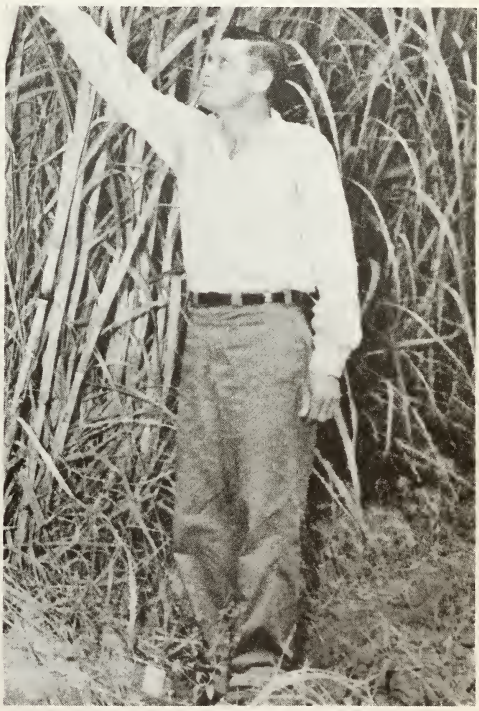

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Harold Junca, Franklin, La.

Bertrand Laperouse, St. Martinville, La.

Oday Rodriquez, Franklin, La.

Etienne Rayne, Edgard, La.

Leon Trahan, Jr., Houma, La.

Horace Wilkinson, Port Allen, La.

Levert-St. John
N. Boudreaux, H. Aubry, J. Levert

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White Castle, La.

Sterling Sugars, Inc. Franklin, La. (Left to Right front row: Blanco, Olivier, Walt Sennet, Fuqua, Doug Sennet & Robichaux. Back row: left to right: Arbeneaux, Guillot, Roland Stroud, Theo Stroud, Jeff and Frank Blanchard.

Alfred, Oneil, and Wilson Andras—Thibodaux, La.

Editor's Note: A. R. Fuselier, of St. Martinville, Noah Alexandre, of Breaux Bridge, and Otto Dressel, of New Iberia, were also winners but pictures are not available as we go to press.

UP FRONT

(Continued from page 71)

are quite sure that the knowledge of this is a solace to his family in their time of sorrow. He was truly a remarkable individual.

Doyle Promoted

It is with pleasure that we print the following announcement from San Francisco about our friend Bascom Doyle.

"Bascom K. Doyle, Gulf manager for Pacific Molasses Company, New Orleans, has just been elected a vice-president of the company, it has been announced from the San Francisco headquarters of Pacific Molasses Company.

Doyle joined Pacific Molasses Company in 1952, following assignments as a research economist on the marketing of blackstrap molasses for the Sugar Branch, U. S. Department of Agriculture, and for the Hawaiian Sugar Planters Association experiment station. Currently, Doyle is chairman of the Blackstrap Molasses Pricing Committee for the Louisiana Sugar Exchange.

Doyle, a native of Louisiana, was graduated from Doyline High School

(Continued on Page 80)

Nicholas Paul, Franklin, La.

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UP FRONT

(Continued from Page 78)

Doyline (La.). After service with the U. S. Air Force, he attended Louisiana State University, earning B.S. and M.S. degrees in agricultural economics."

We congratulate Mr. Doyle on his promotion and the Pacific Molasses Company on their good judgment in choosing their vice-presidents.

———o———

IN WASHINGTON

(Continued from page 72)

if harvesting is not disturbed by rebel activity, and Castro has threatened to destroy the industry if necessary to achieve victory over government forces, that the transportation systems from Oriente and other sugar producing areas of the island may be halted. The important port of Santiago already has been blockaded by the rebels and the latest reports given out by Castro's radio station say he has "naval units" at his disposal.

The report that Castro has a navy caused United States cane sugar refineries and operators to invest more than six million dollars in raw sugar from Peru, the Philippines, Santa Domingo and Puerto Rico, as insurance against war hazards to Cuban sugar, normally their principal source of supply. Since this buying spree on December 8th, Mr. Myers may have to ask Cuba to cut off sales to the world market and set aside the inventory supplies for the United States. If Castro should make good his threat to destroy the Cuban sugar industry, the gentleman who is charged with the responsibility of providing adequate supplies to U. S. sugar consumers at "fair" prices may be forced to revise his statement that he has "seen everything."

However, thanks to Mr. Myers' ability to handle critical situations, United States consumers have adequate sugar supplies for the holidays, which reminds us, it is time to wish everyone a Merry Christmas and a Happy and Prosperous 1959!

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1959 CONSUMPTION ESTIMATE 9,200,000 TONS

On December 29th the U.S.D.A. announced its initial 1959 Consumption Estimate to be 9,200,000 tons of sugar, raw value. This compares with an initial 1958 quota of 8,800,000 tons and a final 1958 quota of 9,200,000 tons, plus the 31,279 tons given to Peru.

The 1959 quotas are as follows: Cuba 3,060,475 tons; Domestic Beet 1,998,717 tons; Mainland Cane 615,024 tons; Hawaii 1,115,479 tons; Puerto Rico 1,166,375 tons; Virgin Islands 15,905 tons; Philippines 980,000 tons; Peru 86,867 tons; Dominican Republic 71,557 tons; Mexico 54,609 tons; Nicaragua 12,879 tons; Haiti 6,597 tons; Netherlands 3,592 tons; China 3,505 tons; Panama 3,505 tons; Costa Rica 1,123 tons; Canada 631 tons; United Kingdom 516 tons; Belgium 182 tons; British Guiana 84 tons, and Hong Kong 3 tons.

ATTENTION—GAS ROYALTY OWNERS

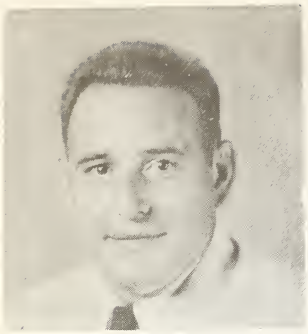
At its recent special session the Louisiana Legislature enacted a statute (Act No. 2), increasing the Severance Tax on natural gas from three-tenths of one cent to two and three-tenths cents per thousand cubic feet. This two-cent increase in the Severance Tax which became effective on December 1, 1958, temporarily, at least, replaces the two cent Gas Gathering Tax, and will be very costly to Louisiana gas royalty owners.

The Gas Gathering Tax was not charged to the royalty owners. It appears certain that all or some part of the Severance Tax on the royalty owners' share of the gas, or value of the gas, will be charged to the royalty owners, thereby substantially reducing the net royalty payments. We are advised, the amount properly chargeable to the royalty owners may vary among royalty owners, depending on the provisions of the gas sales contract between the operator and the pipe line company. It is our understanding, in some of these contracts the pipe line company assumes the payment of a substantial portion of any such tax, but there may be differences of opinion in the gas industry as to the effect of such a provision on the royalty owner.

The impact on each royalty owner will become obvious on receipt of his royalty check for December production. The impact undoubtedly will be confiscatory in some cases, particularly where the price of gas is low. Some gas is being sold in Louisiana at a well-head price of four cents or less per thousand cubic feet.

It is suggested on receipt of his first royalty check after December that the royalty owner ascertain what tax has been charged to him, and have his attorney determine whether the amount is proper under the facts applicable to his particular case.

It appears the time has come for the Louisiana royalty owners to take some unified action to protect themselves; otherwise, they could easily lose their birthrights.



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

Now that the 1958 cane crop is gone it's now time to begin thinking about the 1959 crop and the future. There are many operations to come which require thought and planning before being done.

Tools and equipment of all types can be repaired and readied for immediate use. This also applies to harvesting equipment. Loader and harvester operators will know now that which needs repairing. If harvest equipment repair cannot be done at this time, an inventory now of work and parts required will save time later on. Cultivating tools should be checked for repair. Worn hubs, broken discs, and worn parts on all tools can be ordered and replaced. Cracked frames on tools can be welded, tractors can be checked for repair.

Thought can be given to herbicide and fertilizer requirements and plans can be made for purchase of these materials. Weather during the 1958 crop prevented many growers in some areas from doing an effective job in controlling grass both in the cane fields and in the lands to be planted for the next crop. A carefully planned weed control program as set out by Mr. Ernest Stamper of L.S.U. should be followed to regain control. Check with the County Agent for full details and recommendations before ordering materials.

There are many things that can be done before the actual working of the crop begins. It is never a bad idea to clean up the fields, burn out trash and clean up headlands and etc.

It is never really easy and it is usually costly to wait until the last minute before giving the job some thought. Plan early, save time and money.

Prospects for stands for the coming crop look good at this time. Plant cane seed pieces have good color and appear sound. In spite of rains during most of the early planting season which delayed seedbed preparation and planting, an excellent job of getting the land in good physical shape was finally done and most cane was planted well. There was some concern over the lack of rainfall following planting which could have caused some drying out of the seed piece, but examinations of the seed now show that this did not occur to any appreciable extent. Stubble pieces are in good shape and the fields are not badly cut from the harvest. If good weather continues, gaps in stubble will only be those which are a carryover from plant cane.

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

The Sugar Act will be extended during the first session of the 86th Congress according to the Honorable Harold E. Cooley, Congressman from North Carolina, chairman of the House Committee for Agriculture. Mr. Cooley made that statement in an address before the Sugar Club of New York, December 16, 1958.

Some of Mr. Cooley's remarks with respect to sugar legislation are as follows:

"Some people believe that the Sugar Program has cost American consumers the sum of $388 million. You and I know that the program has resulted in a profit to the taxpayers of America of that amount—$388 million. But for the Sugar Program no one is wise enough to know what the housewives of America would have paid for sugar during the long years that the program has been in operation.

"The Act has operated so smoothly and so well that the average housewife in America is not even aware of the fact that for more than 20 years we have had a sugar program in operation. Supplies have been abundant and prices have been reasonable. The program has been a great benefit to producers—both domestic and foreign. It has provided them with a guaranteed market for sugar at prices which have usually been substantially above the world market price. Yet, as I say, prices to consumers have at all times been fair and reasonable. The "built-in" financing feature of the Sugar Act is a rather persuasive argument that it is possible to cope with the major problems of an agricultural commodity by a carefully drawn and well administered Government regulatory program.

"I want to publicly congratulate and commend Larry Myers, the Director of the Sugar Program, upon the splendid manner in which he has performed all of the great duties assigned to him. With becoming dignity—with courage and firmness and with great impartiality and fairness, he has well and faithfully discharged his responsibilities.

"Now shortly the Congress again will consider the extension and amendment of the Sugar Act. I don't know whether the various groups in the sugar industry have a united position or not, or whether they can obtain one. I need not say that a unanimous position of the domestic producing industry would be most helpful.

"Whether all interested parties are in unanimous agreement or not I believe that the Act has worked well, that the program has been well administered and should, therefore be extended. I am definitely of the opinion that an extension will be approved by Congress. I earnestly hope that we may avoid a revision of the basic quotas for domestic and foreign producing areas. So far as I am personally concerned the burden of proof will rest upon those who petition for a reopening of the provisions of the Act dealing with basic quotas.

(Continued on page 96)

FERTILIZER INVESTIGATIONS ON SUGARCANE AT THE HOUMA STATION IN 1957

By Lester G. Davidson, Research Agronomist, Crops Research Division, Agricultural Research Service, United States Department of Agriculture.

(Report to the Contact Committee of the American Sugar Cane League, June, 1958)

During 1957, 14 field fertilizer experiments were conducted by the Houma station on some of the major soil types used for sugacane production in Louisiana. Eight of these experiments were conducted in cooperation with the agronomists of the Houma station on the outfield variety test locations. Sources of nitrogen used in the experiments were ammonium nitrate, and aqua and anhydrous ammonia. In most experiments the cane from each plot was hand cut, and weighed on the station cane-weighing machine. Cane samples from each plot were milled and analyzed at the Houma station. Data in the attached tables include crusher juice analysis, and yields of sugar per ton of cane as calculated by the Winter-Carp-Geerligs formula. Calculations are based on fresh, clean cane, properly hand topped, resulting in somewhat higher recoveries than would be obtained with machine-harvested cane.

Rate-of-Nitrogen Experiments

The effects of various rates of nitrogen on yields and on juice quality were studied in 6 experiments with plant cane, 5 with first stubble, and 3 with second stubble.

Table 1 shows the effects of 40 and 80 pounds of nitrogen per acre on plant cane in 3 agronomy outfield variety tests on light soil. Tabulated data are based on averages of 32 plots. Juice quality was not appreciably affected by the higher rate of nitrogen. Significant increases in yields of cane and sugar per acre from 80 pounds of nitrogen per acre as compared to 40 pounds were obtained at 2 of the 3 locations.

Table 2 shows data from an experiment on Mhoon very fine sandy loam on Ranch Plantation, with N.Co. 310

TABLE 1

Effects of 40 and 80 pounds of nitrogen per acre on light soil [1]
(Averages of 16 varieties of plant cane)
1957

Plantation and Date of Harvest	Nitrogen per acre	Crusher juice analysis			Cane per Acre	Sugar per acre
		Brix	Sucrose	Purity		
	pounds		%	%	tons	pounds
Bon Secour	40	17.19	14.57	84.76	26.27	5212
11-18-57	80	16.88	14.15	83.83	29.41**	5640**
Oaklawn	40	16.35	13.16	80.49	28.66	5009
11-14-57	80	16.27	13.03	80.09	31.27**	5400*
St. John	40	15.96	13.14	82.33	24.70	4394
12-3-57	80	15.95	13.18	82.63	25.91	4609
Averages of three tests	40	16.50	13.62	82.55	26.54	4872
	80	16.37	13.45	82.16	28.86**	5216**

[1] Agronomy variety test fields.
* Significant at 5% level.
** Significant at 1% level.

TABLE 2
RANCH PLANTATION
Houma, La.
Plant Cane—1957

Mhoon very fine sandy loam — N. Co. 310

Fertilizer treatments: N - P_2O_5 - K_2O	Crusher juice analysis: Brix	Sucrose	Purity	Cane per acre	Indicated available 96° sugar at harvest: Per ton of cane	Per acre
pounds per acre		%	%	tons	pounds	pounds
40 - 0 - 0	16.63	13.54	81.42	30.18	182.7	5514
40 - 50 - 50	16.89	14.04	83.13	31.57	191.6	6049
80 - 0 - 0	17.04	14.17	83.16	30.58	193.4	5914
80 - 50 - 50	17.21	14.32	83.21	35.60	195.5	6960
120 - 0 - 0	16.96	13.85	81.66	37.36	187.2	6994
120 - 50 - 50	17.37	14.38	82.79	39.22	195.8	7679
Averages (for N)						
40 lbs. nitrogen	16.76	13.79	82.28	30.88	187.2	5782
80 lbs. nitrogen	17.12	14.24	83.18	33.09	194.5	6437
120 lbs. nitrogen	17.16	14.12	82.28	38.29	191.6	7336
L.S.D. for nitrogen averages (.05)				3.26		1049
L.S.D. for nitrogen averages (.01)				4.74		1527
Averages (for P_2O_5 + K_2O)						
No P_2O_5 or K_2O	16.88	13.85	82.05	32.71	187.7	6141
80 lbs. each P_2O_5 & K_2O	17.16	14.25	83.04	35.46	194.5	6896
L.S.D for P_2O_5 + K_2O averages (.05)				1.55		415
L.S.D. for P_2O_5 + K_2O averages (.01)				2.18		576

Data, except averages, are averages of 5 plots, each 3 rows wide by 50 feet long.
Fertilizer applied April 22, 1957; harvested November 25, 1957.

TABLE 3
OAKLAWN PLANTATION
Franklin, La.
Plant cane—1957

Iberia silt loam — C. P. 44-101

Fertilizer treatments N - P_2O_5 - K_2O	Crusher juice analysis: Brix	Sucrose	Purity	Cane per acre	Indicated available 96° sugar at harvest: Per ton of cane	Per acre
pounds per acre		%	%	tons	pounds	pounds
40 - 0 - 0	16.36	13.52	82.64	17.06	183.9	3137
40 - 60 - 60	16.13	13.41	83.14	17.32	183.0	3170
80 - 0 - 0	15.87	13.14	82.80	17.61	178.9	3150
80 - 60 - 60	16.09	13.04	81.04	18.78	175.5	3296

There were no significant yield differences from the 2 nitrogen or the 2 P-K levels used in this experiment.
Data are averages of six plots, each 3 rows wide by the full length of the cut, having an average area of 0.3 acre. Fertilizer applied April 29, 1957; cane harvested December 17-18, 1957.

plant cane. The average data for nitrogen show a significant increase in yield of sugar per acre from the use of 120 pounds as compared to 40 pounds of nitrogen per acre. The increase in yield of sugar from the 120-pound rate as compared to the 80-pound rate was large but not quite significant.

Table 3 gives data from an experiment on Oaklawn Plantation with C. P. 44-101 plant cane on Iberia silt loam. There were no appreciable differences in yields of cane or sugar

TABLE 4
HOUMA STATION
Houma, La.
Plant cane—1957

Mhoon silty clay loam — Two varieties

Nitrogen per acre	Crusher juice analysis: Brix	Sucrose	Purity	Cane per acre	Indicated available 96° sugar at harvest: Per ton of cane	Per acre
pounds		%	%	tons	pounds	pounds
C.P. 44-101 (Healthy)[1]						
0	16.79	13.58	80.88	28.20	182.5	5146
40	16.81	13.66	81.26	36.99	184.1	6810
80	16.72	13.43	80.32	38.70	179.8	6958
120	16.66	13.49	80.97	39.98	181.4	7252
C.P. 44-101 (R.S.D)[2]						
0	17.24	14.15	82.08	25.17	191.7	4825
40	16.81	13.65	81.20	35.51	183.9	6530
80	17.08	13.78	80.68	35.26	185.0	6523
120	17.06	13.80	80.89	38.57	185.5	7155
C. P. 43-47 (Healthy)[1]						
0	17.45	14.58	83.55	24.73	195.6	4837
40	17.18	14.28	83.12	31.27	191.0	5973
80	16.94	13.95	82.35	34.39	185.7	6386
120	17.58	14.77	84.02	34.67	196.7	6889
C. P. 43-47 (R.S.D)[2]						
0	18.07	15.32	84.78	19.70	207.1	4080
40	17.86	15.22	85.23	24.98	206.3	5153
80	17.80	15.21	85.45	25.49	206.4	5261
120	17.68	14.81	83.77	24.14	198.9	4801
Averages						
0	17.39	14.41	82.86	24.45	193.1	4722
40	17.16	14.20	82.75	32.19	190.0	6116
80	17.14	14.09	82.21	33.46	187.7	6282
120	17.24	14.22	82.48	34.34	190.0	6524
L.S.D. for averages only (.05)				1.71		334
L.S.D. for averages only (.01)				2.31		450

[1] Planted with first progeny from hot-air-treated seed.
[2] Planted with seed infected with R.S.D.
Data, except averages, are averages of 3 plots, each 3 rows wide by 27½ ft. long. Fertilized April 25, 1957; harvested November 19, 1957.

)er acre from the use of 40 or 80)ounds of nitrogen per acre.

Table 4 presents data from an ex)eriment on Mhoon silty clay loam)n the Houma station, with C. P. 44-.01 and C. P. 43-47 plant cane. Aver)ge data show significant increases)n yields of sugar per acre from the)se of 40 pounds of nitrogen per acre)s compared to check, and from 120)ounds of nitrogen as compared to .0 pounds.

A summary of rate-of-nitrogen ex)eriments on plant cane on light soil howed that sugar-per-acre yields vere significantly increased in 2 out f 4 experiments by the use of 80)ounds of nitrogen per acre as com)ared to 40 pounds, and by 120)ounds of nitrogen per acre as com)ared to 40 pounds in one experi)ent. The joint fertilizer recommen)lations of the State and Federal sta)ions advise the use of 40 to 60 pounds f nitrogen per acre on plant cane on ight soil. This is the second year hat half or more of the plant cane xperiments on light soil have shown ignificant response to nitrogen at omewhat above the recommended ates.

Table 5 gives data showing the effects of 80 and 120 pounds of nitrogen per acre on first stubble cane on light soil in 3 agonomy outfield variety experiments. Tabulated data are based on averages of 34 plots. The average juice quality was little affected by the higher rate of nitrogen. Yields were significantly increased by the higher rate of nitrogen at only 1 of the 3 locations.

Table 6 presents data from an experiment on Mhoon very fine sandy loam on Mandalay Plantation with the varieties C. P. 44-101 and C. P. 36-13 as first stubble cane. Average data (for nitrogen) show significant increases in yields of cane and sugar per acre from the use of 40 pounds of nitrogen per acre as compared to the checks, and for 80 pounds as compared to 40 pounds of nitrogen per acre. No further significant yield increases were obtained with 120 pounds of nitrogen per acre.

Table 7 shows data from an experiment on Mhoon silt loam on the Houma station, with 4 varieties as first stubble cane. Average data for the 4 varieties show significant increases in yields of cane and sugar per acre for 40 pounds of nitrogen per acre as compared to the unferti-

TABLE 5

Effects of 80 and 120 pounds of nitrogen per acre on light soil [1]
(Averages of 17 varieties of first stubble cane)
1957

Plantation and Date of harvest	Nitrogen per acre	Crusher juice analysis			Cane per acre	Sugar per acre
		Brix	Sucrose	Purity		
	pounds		%	%	tons	pounds
Bon Secour	80	17.28	14.57	84.32	28.01	5551
11-8-57	120	17.05	14.19	83.23	28.99	5544
Oaklawn	80	16.36	13.18	80.56	29.11	5130
10-25-57	120	16.37	13.18	80.51	31.91**	5604*
St. John	80	16.75	13.83	82.57	31.48	5854
11-5-57	120	16.60	13.59	81.87	31.95	5799
Averages of	80	16.80	13.86	82.50	29.53	5515
three tests	120	16.67	13.65	81.88	30.95	5649

[1] Agronomy variety test fields.
* Significant at 5% level.
** Significant at 1% level.

lized controls, and for 120 pounds as compared to 40 pounds of nitrogen per acre.

Table 8 gives data showing the effects of 80 and 120 pounds of nitrogen per acre on second stubble cane on light soil in 2 agronomy outfield variety experiments. The data are averages of 16 plots. Percent sucrose was not appreciably affected and yields were not significantly af fected by the higher rate of nitroger

Table 9 shows data from an exper ment on Mhoon silty clay loam on th Houma station, with 4 varieties a second stubble. Average data show significant increase in yield of suga per acre with 40 pounds as compare to no nitrogen, with no further appr ciable increase in sugar yields for th

TABLE 6
MANDALAY PLANTATION
Houma, La.
First Stubble—1957

Mhoon very fine sandy loam — Two varieties

Fertilizer treatments N - P_2O_5 - K_2O	Crusher juice analysis: Brix	Sucrose	Purity	Cane per acre	Indicated available 96° sugar at harvest: Per ton of cane	Per acre
pounds per acre		%	%	tons	pounds	pounds
C. P. 44-101						
0 - 0 - 0	17.85	15.20	85.15	26.03	210.0	5466
0 - 50- 50	17.70	15.07	85.14	27.29	208.2	5682
40- 0 - 0	17.72	15.08	85.10	30.24	208.3	6299
40- 50- 50	18.22	15.78	86.61	32.17	220.0	7077
80- 0 - 0	17.60	14.96	85.00	34.88	206.5	7203
80- 50- 50	17.86	15.33	85.83	37.56	212.7	7989
120- 0 - 0	17.79	15.18	85.33	35.94	210.0	7547
120- 50- 50	17.82	15.22	85.41	35.01	210.6	7373
C. P. 36-13						
0 -0 - 0	17.75	15.42	86.87	19.20	219.5	4214
0- 50- 50	17.56	15.21	86.62	19.40	216.2	4194
40- 0 -0	17.42	14.95	85.82	24.82	211.5	5249
40-50- 50	17.75	15.45	87.04	28.04	220.1	6172
80- 0 -0	17.48	14.77	84.50	27.50	207.3	5701
80-50 -50	17.55	15.13	86.21	28.00	214.5	6006
120- 0 -0	17.28	14.80	85.65	26.58	209.2	5561
120-50 -50	17.56	15.01	85.48	33.90	211.9	7183
Averages (for N)						
No nitrogen	17.72	15.22	85.89	22.98	212.8	4889
40 lbs. nitrogen	17.78	15.32	86.16	28.82	215.1	6199
80 lbs. nitrogen	17.62	15.05	85.41	31.98	210.3	6725
120 lbs. nitrogen	17.61	15.05	85.46	32.86	210.5	6916
L.S.D. for nitrogen averages (.05)				2.37		541
L.S.D. for nitrogen averages (.01)				3.16		720
Averages (for P_2O_5 + K_2O)						
No P_2O_5 or K_2O	17.61	15.04	85.41	28.15	209.8	5905
50 lbs.each P_2O_5& K_2O	17.75	15.28	86.08	30.17	214.1	6460
L.S.D. for P_2O_5 + K_2O averages (.05)				1.68		382
L.S.D. for P_2O_5 + K_2O averages (.01)				N.S.		509

Data, except averages, are averages of 4 plots, each 3 rows wide by 30 feet long. Fertilized May 7, 1957; harvested November 12, 1957.

igher rates of nitrogen.

A summary of the 8 rate-of-nitrogen experiments on stubble cane showed significant increases in yields of cane and sugar per acre from 120 pounds as compared to 80 pounds in only 1 experiment. These data are in good agreement with our joint fertilizer recommendations (for nitrogen) of 80 to 100 pounds of nitrogen per acre on stubble cane.

N-P-K Experiments

In the plant cane experiment on Ranch Plantation, shown in table 2, yields of cane and sugar per acre were significantly increased by the use of complete mixtures as compared to nitrogen alone.

TABLE 7
HOUMA STATION
Houma, La.
First stubble—1957

Mhoon silt loam — **Four varieties**

Nitrogen per acre	Crusher juice analysis: Brix	Sucrose	Purity	Cane per acre	Indicated available 96° sugar at harvest: Per ton of cane	Per acre
pounds		%	%	tons	pounds	pounds
			C. P. 44-101			
0	16.76	13.80	82.34	22.63	187.3	4239
40	17.01	14.22	83.60	28.54	194.6	5554
80	17.19	14.27	83.01	29.61	194.6	5762
120	16.54	13.51	81.68	33.49	182.6	6115
			C. P. 36-13			
0	16.34	13.84	84.70	16.60	194.5	3229
40	16.53	14.09	85.24	19.39	198.6	3851
80	17.26	14.72	85.28	22.06	207.6	4580
120	16.79	14.04	83.62	22.85	196.0	4479
			C. P. 48-103			
0	18.73	16.51	88.15	18.38	236.7	4351
40	19.00	16.64	87.58	24.88	237.8	5916
80	18.92	16.69	88.21	24.43	239.4	5849
120	18.88	16.79	88.93	27.00	241.8	6529
			N. Co. 310			
0	16.96	14.00	82.55	21.55	190.3	4101
40	16.73	13.82	82.61	30.92	187.9	5810
80	16.56	13.52	81.64	32.02	182.7	5850
120	16.97	14.13	83.26	34.01	193.0	6564
			Averages			
0	17.20	14.54	84.53	19.79	201.1	3980
40	17.32	14.69	84.82	25.93	203.7	5283
80	17.48	14.80	84.67	27.03	203.8	5510
120	17.30	14.62	84.51	29.34	201.8	5922
L.S.D. for averages only (.05)				2.02		475
L.S.D. for averages only (.01)				2.71		636

Data, except averages, are averages of 3 plots, each 3 rows wide by 26 ft. long. Fertilized April 25, 1957; harvested October 24, 1957.

In the plant cane experiment on Oaklawn Plantation, shown in table 3, yields from the use of nitrogen alone and from complete mixtures did not differ significantly.

In the stubble cane experiment on Mandalay Plantation, shown in tab 6, yields of cane and sugar per ac were significantly increased by th use of complete mixtures as compare to nitrogen alone.

Fertilizer recommendations wer

TABLE 8

Effects of 80 and 120 pounds of nitrogen per acre on light soil [1]
(Averages of 8 varieties of second stubble cane)
1957

Plantation and Date of harvest	Nitrogen per acre	Crusher juice analysis			Cane per acre	Sugar per acre
		Brix	Sucrose	Purity		
	pounds		%	%	tons	pounds
Bon Secour 10-21-57	80	15.84	12.90	81.44	22.52	3918
	120	15.70	12.74	81.15	22.61	3855
Oaklawn 10-27-57	80	17.96	15.01	83.57	24.30	4959
	120	17.84	14.78	82.85	27.01	5380
Averages of two tests	80	16.90	13.96	82.60	23.41	4438
	120	16.77	13.76	82.05	24.81	4618

[1] Agronomy variety test fields.
Yields of cane or sugar per acre for the two nitrogen rates did not differ significantly in either of the above experiments.

repared jointly by the Louisiana gricultural Experiment Station and ne Houma Station of the U. S. Department of Agriculture, and published in the March 1, 1958, issue f *The Sugar Bulletin.*

Variety X Nitrogen X RSD Interactions

The plant cane experiment on the Houma station, shown in table 4, was designed to study the comparative effects of high nitrogen applications on yields of healthy and ratoon-stunting-diseased cane of 2 varieties. Data indicated that the nitrogen response was about the same for healthy and diseased cane of these 2 varieties. Yields of cane and sugar per acre

TABLE 9
HOUMA STATION
Houma, La.
Second stubble—1957

Mhoon silty clay loam — **Four varieties**

Nitrogen per acre	Crusher juice analysis: Brix	Sucrose	Purity	Cane per acre	Indicated available 96° sugar at harvest: Per ton of cane	Per acre
pounds		%	%	tons	pounds	pounds
C. P. 44-101						
0	16.60	13.77	82.95	19.52	187.7	3664
40	17.28	14.56	84.26	22.34	200.1	4470
80	16.32	13.46	82.48	23.81	182.9	4355
120	16.07	13.26	82.51	26.58	180.2	4790
C. P. 47-193						
0	16.67	13.90	83.38	15.04	186.2	2800
40	17.43	14.86	85.26	15.91	201.4	3204
80	17.00	14.37	84.53	17.10	193.9	3316
120	16.77	14.16	84.44	16.03	191.0	3062
C. P. 48-103						
0	17.24	14.68	85.15	13.09	206.8	2707
40	18.18	15.94	87.68	16.96	227.9	3865
80	16.82	14.38	85.49	14.54	203.0	2952
120	16.67	14.08	84.46	18.57	197.5	3668
C. P. 50-41						
0	16.54	13.58	82.10	24.46	184.1	4503
40	16.20	12.86	79.38	31.60	171.0	5404
80	16.34	12.97	79.38	33.70	172.5	5813
120	16.17	13.04	80.64	35.75	175.0	6256
Averages						
0	16.76	13.98	83.41	18.03	189.6	3418
40	17.27	14.56	84.31	21.70	195.2	4236
80	16.62	13.80	83.03	22.29	184.3	4109
120	16.42	13.64	83.07	24.23	183.4	4444
S.D. for averages only (.05)				2.39		524
S.D. for averages only (.01)				3.30		721

Data, except for averages, are averages of 2 plots, each 3 rows wide by 30 feet long. Fertilized April 25, 1957; harvested October 24, 1957.

were higher with healthy cane, while sugar per ton of can was somewhat higher in the diseased cane. This is in agreement with data reported by the pathologists.

Variety X Nitrogen Interaction Experiments

This type of study was included in many of the experiments, and was designed to determine the relative varietal response to nitrogen of in portant commercial and promisin unreleased varieties of sugarcane. N important variety x nitrogen inte actions were found. The average r sponses of 5 commercial varieties nitrogen are shown in table 10. Th comparative yield increases of th different varieties are not signif cant.

TABLE 10

Comparative yield increases of selected varieties from applications of 40 and 80 pounds of nitrogen per acre in plant cane, and 80 and 120 pounds in first stubble. Top figure in each group of three is for the lower rate; second is for the higher rate, third shows gain (or loss) due to the higher rate.

(Averages for 12 plant cane and 11 first stubble tests during the past three years)

Variety	PLANT CANE		FIRST STUBBLE CANE		COMBINED TESTS	
	C/A*	S/A*	C/A	S/A	C/A	S/A
C. P. 44-101...	28.96	5344	28.57	5383	28.78	5363
	29.97	5376	30.62	5605	30.28	5486
	1.01	32	2.05	222	1.50	123
C. P. 36-105	28.33	5131	26.12	4978	27.27	5058
	29.10	5092	27.64	5073	28.40	5083
	.77	-39	1.52	95	1.13	25
C. P. 44-155	24.57	4774	24.96	4777	24.75	4776
	27.88	5230	23.70	4505	25.88	4883
	3.31	456	-1.26	-272	1.13	107
N. Co. 310	30.53	5813	31.69	5824	31.08	5819
	31.66	5868	33.05	6004	32.33	5933
	1.13	55	1.36	180	1.25	114
C. P. 48-103	23.22	5078	25.41	5797	24.27	5422
	24.13	5248	25.16	5615	24.62	5424
	.91	170	-.25	-182	.35	2
Means	27.12	5228	27.35	5352	27.23	5288
	28.55	5363	28.03	5360	28.30	5362
	1.43	135	.68	8	1.07	74

* C/A = Tons of cane per acre; S/A = pounds of sugar per acre.

)ETERMINATION OF COMMERCIALLY RECOVERABLE SUGAR MAINLAND CANE SUGAR AREA 1958 CROP

Pursuant to the provisions of section 302 (a) of the Sugar Act of 948, as amended (hereinafter referred to as "act"), the following etermination is hereby issued:

§ 833.5 *Sugar Commercially Recoverable from Sugarcane in the Mainland Cane Sugar Area.* (a) *Definitions.* For the purpose of this section, the terms: (1) "Trash" means reen or dried leaves, sugarcane tops, irt and all other extraneous material.

(2) "Gross weight" means the total weight (short tons) of sugarcane, including trash, as delivered by a roducer for processing for sugar roduction.

(3) "Net weight" means: (i) in lorida, 96.0 percent of gross weight, nd

(ii) In Louisiana, the weight obtained by deducting from gross weight, the weight of trash in the sugarcane, as determined by the processor, in accordance with instructions issued by the Agricultural Stabilization and Conservation State Committee, with the approval of the Director of the Sugar Division, Commodity Stabilization Service.

(b) *Recoverable Sugar.* For the 1958 crop of sugarcane, the amount of sugar, in hundredweight, raw value, commercially recoverable from sugarcane grown on a farm in the Mainland Cane Sugar Area and marketed (or processed by the producer) for the extraction of sugar or liquid sugar, from an acreage not in excess of the proportionate share for the farm, shall be obtained by multiplying the net weight of the sugarcane in tons by the rate of recoverability specified for the average percentage of sucrose in the normal juice of such sugarcane as follows:

(1) *For farms in Louisiana:*

rcentage of sucrose in rmal juice [1]	Rate of Recoverability (cwt.)
8.0	0.942
9.0	1.100
10.0	1.253
11.0	1.431
12.0	1.598
13.0	1.767
14.0	1.937
15.0	2.106
16.0	2.273
17.0	2.439
18.0	2.605

[1] Rates for the intervening tenths of 1 rcent shall be calculated by interpolation.

(2) *For farms in Florida:*

Percentage of sucrose in normal juice [1]	Rate of Recoverability (cwt.)
8.0	0.940
9.0	1.138
10.0	1.322
11.0	1.499
12.0	1.674
13.0	1.847
14.0	2.021
15.0	2.192
16.0	2.367
17.0	2.542
18.0	2.716

[1] Rates for the intervening tenths of 1 percent shall be calculated by interpolation.

IN WASHINGTON

(Continued from page 85)

Arguments for a reopening of the provisions dealing with basic quotas must be clear, cogent and convincing.

"Please do not understand that I am prejudging the situation. I have not closed my mind, nor shall I close the doors of our committeeroom to any person who feels that certain operations under the Act can be improved, or that injustices may be corrected. As a forum for the consideration of the complaints and grievances of all persons the House Committee on Agriculture will always be available. I am aware that there is a feeling that certain details of the program—specifically the reallocation of deficits — has resulted in some dislocations within the United States.

"I assure you that the members of our committee will, with patience and prudence give full consideration to the petitions and complaints and to all suggestions which might be submitted for our consideration. I know the members of our committee quite well. Our committee has been remarkably free from partisan politics.

"I anticipate, of course, that the Sugar Act will be extended during the coming session."

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THE SUGAR BULLETIN

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UP FRONT WITH THE LEAGUE

by A. W. Dykers

Wonders

Did you ever wake up in the middle of the night wondering about this, that and the other? We had one of those nights recently when we seemed to be bewildered about everything that popped into our head and it wasn't very pleasant.

Some of our uncharitable acquaintances will say that being bewildered is our natural state, but even those steady characters will have to admit that there have been some confusing developments of late. Take, for instance, these pot shots we and the Russians have been taking at the moon! Haven't you wondered what would have happened if the aim had been good and the moon had returned the compliment?

The Russians say that their "lunik" missed the target by just a little over four thousand miles and that it hurried on into space and is now orbiting the sun so far out that it takes longer to make the rounds than the earth does! Don't you wonder how anybody knows what this thing is doing way out yonder where it can't be seen or heard?

The recent developments in Cuba have been rather bewildering, too. We read in the paper one day that the rebels were on the run and all of a sudden the opposition skips the country and the revolution is over! Incidentally, this development confused the "Old Mule" so much he skidded thirty-seven points in just a few days His counterpart in the "World Market" nosed-dived forty points and is now in a spin that could put him into a low orbit at any minute. It will be interesting to see what happens.

We wonder if others have wondered, like we have, whether the Sugar Division is bragging or apologizing when they call attention to the fact that the price of sugar is below the price indicated in the Sugar Act. Practically every time they make a quota announcement a special paragraph is used for this purpose. The announcement of the 9,200,000 ton consumption estimate for 1959 said "The wholesale price of refined sugar at New York is 9.35 cents per pound, or 94.4 percent of the level of the 9.90 cents computed in accordance with the consumers' Price Index under the formula in section 201 of the act". What do you think?

And, to record just one more of our wonders, we wonder how the folks up in Washington can say for sure, like they do, that substitutes for sugar will put us out of business if the price of sugar is allowed to reach the level indicated in the Sugar Act. As far as we know this theory has never been tried out, and, if past experience is any criterion, it never will be under the present administrators.

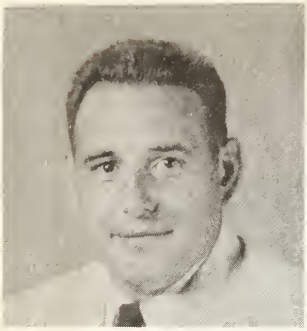
We could go on and on, but this is enough. Pretty soon we will be as bewildered in the middle of the day as we are in the middle of the night and then these "steady characters" will have us for sure.

Have a Happy New Year!

Louis Caillouet Dies

We were shocked to pick up the newspaper the other day and learn

(Continued on page 105)



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

League Requests Increase Proportionate Shares For 1959

In 1958 the Mainland Cane Area, Louisiana and Florida, did not fill its mill marketing quota. There is also a possibility that the mill marketing quota will not be filled in 1959. With this in mind the League's Executive Committee at its last meeting asked the Proportionate Share Committee to study all pertinent data, and then consider the merits of asking the U.S.D.A. for a further increase in proportionate shares for 1959.

On January 8, 1959, the League's Proportionate Share Committee met in Thibodaux to consider this matter. This sixteen man committee, Composed of both growers and proccessors from all areas of the belt, studied all acreage and production figures available. While the Committee knew that good weather during December had allowed some farmers to destroy a considerable amount of the over-acreage stubble, the Committee also knew that many farmers had not yet destroyed all over acreage stubble. Aware that good farming practices require growers to keep a certain amount of over acreage stubble until the spring to pick and choose the best, the Committee felt that most farmers could take advantage of an additional acreage increase in 1959.

As a result of the findings of the Proportionate Share Committee, the American Sugar Cane League has recommended to the U.S.D.A. that Louisiana growers be granted a further increase in the 1959 cane acreage allotment. Present acreage allotments are 10% higher than the 1958 acreage allotments. The League is asking that an additional five per cent increase be added to this 10%, making a total increase above the 1958 allotment of 15%. If the full 15% acreage increase is granted, and the entire 15% is used, this will bring the total acreage in cane for this year to approximately 278,000 acres which is still some 22,000 acres less than normal.

There is no guarantee that the U.S.D.A. will allow the acreage increases requested, but growers should delay breaking out some of the best over-acreage stubble until a decision is received from the U.S.D.A.

Most growers do not know the official measurements of the fields planted to cane last fall because of changes in the maps being used. Parish ASC offices will make official acreage determinations now if farmers ask for measurements.

It is suggested that growers ask for these measurements as soon as possible. These new measurements are needed before growers complete the breaking out of over-acreage stubble. Without the new measurements some growers might plow out cane which could have been kept. Avoid this by having plant cane measured.

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

The campaign to extend the Sugar Act was opened by Senator Allen J. Ellender when he introduced for himself and colleagues S. 187, a bill to make permanent the provisions of the Sugar Act of 1948 as amended. Senators Wallace F. Bennett, R. Utah; Russell B. Long, D. Louisiana; Spessard L. Holland, D. Florida; Mike Mansfield, D. Montana; Clair D. Engle, D. California; Henry C. Dworshak, R. Idaho; Frank Carlson, R. Kansas; William Proxmire, D. Wisconsin; Carl T. Curtis, R. Nebraska; Joseph C. O'Mahoney, D. Wyoming; George A. Smathers, D. Florida; Gordon Allott, R. Colorado; Milton R. Young, R. North Dakota; Gale W. McGee, D. Wyoming; Frank E. Moss, D. Utah; Frank Church, D. Idaho; James E. Murray, D. Montana; Roman L. Hruska, R. Nebraska; E. L. Bartlett, D. Alaska; Alan Bible, D. Nevada; Wayne Morse, D. Oregon joined Senator Ellender in sponsoring the bill which was read twice and will be referred to the Committee on Finance, on January 19, 1959.

Senator Ellender requested the bill be held until that date in order to give other Senators who may wish to do so, an opportunity to join in sponsoring the legislation.

S. 187 reads as follows:

> "A Bill to make permanent the provisions of the Sugar Act of 1948.
>
> "That section 412 of the Sugar Act of 1948 (relating to termination of the powers of the Secretary of Agriculture under the Act) is hereby repealed.
>
> "Sec. 2. Sections 4501(c) and 6412(d) (relating to the termination of taxes on sugar) of the Internal Revenue Code of 1954 are hereby repealed."

The fighting in Cuba has stopped and return to normalcy in sugar production seems to be well on the way. Mills have started grinding, roads and bridges are being rapidly repaired, and "safe" shipping is again available to those mills in the eastern end of the island which were cut off from ports by the revolution.

The Cuban Sugar Stabilization Institute is being reorganized by the new government, but it is reliably understood that most of the top officials will be retained.

Now that the Cuban revolution is history, the question uppermost in the minds of Washington sugar industry representatives is what will the U. S. Department of Agriculture do about quotas? The consensus is that a quota reduction of at least 200,000 tons will be made within a short time. Officials of the Sugar Division said that as soon as they could get authentic information on the Cuban crop situation, they would take a new look at the quota.

SUGAR QUOTAS TOTALING 9,200,000 TONS ANNOUNCED FOR 1959

The amount of sugar needed to meet the requirements of consumers in the continental United States for the calendar year 1959 was estimated at 9,200,000 short tons, raw value and quotas totaling the same amount were established on December 29th by the Secretary of Agriculture.

This is the same level of requirements currently in effect for the 1958 calendar year. The 1958 requirements were initially established at 8,800,000 tons before subsequent increases brought them to the present level of 9,200,000 tons.

Sugar quotas govern the supply of sugar from all sources, foreign and domestic, available to the continental United States. The quotas announced recently are expected to provide a supply of sugar adequate to meet normal needs in 1959.

The sugar quotas for individual areas and countries, and the quantities that may be filled by direct-consumption sugar, are shown in the following table:

Area and Country	Quota (short tons, raw value)	Direct-consumption limit
Domestic beet sugar	1,998,717	no limit
Mainland cane sugar	615,024	no limit
Hawaii	1,115,479	31,403
Puerto Rico	1,166,375	136,113
Virgin Islands	15,905	0
Republic of the Philippines	980,000	59,920
Cuba	3,060,475	375,000
Peru	86,867	9,827
Dominican Republic	71,557	8,761
Mexico	54,609	15,914
Nicaragua	12,879	10,494
Haiti	6,597	6,597
Netherlands	3,592	3,592
China	3,505	3,505
Panama	3,505	3,505
Costa Rica	1,123	1,123
Canada	631	631
United Kingdom	516	516
Belgium	182	182
British Guiana	84	84
Hong Kong	3	3
All other countries	0	0

The "Statement of Bases and Considerations" with regard to requirements included in the determination scheduled for publication in the Federal Register Dec. 31, is as follows:

"Requirements. Section 201 of the Sugar Act of 1948, as amended, provides that in determining the quantity of sugar needed to meet the requirements of consumers in the continental United States (total of quotas) the Secretary shall use as a basis the quantity of sugar distributed in the 12 months ended Oct. 31 prior to the year to which the requirements apply, shall make allowances for a deficiency or surplus in inventories of sugar and for changes in consumption because of changes in population and demand conditions and, in addition, shall consider the relationship between wholesale prices for refined sugar and the Consumers' Price Index.

"During the 12 months ended Oct. 31, 1958, distribution of sugar by refiners, importers and processors of sugar beets and sugarcane amounted to about 8,970,000 short tons, raw value. An analysis of monthly distribution indicates that invisible inventories (those held by wholesalers, retailers and industrial users) expanded about 100,000 tons during that period and consequently actual consumption was less than distribution by about the same amount. After allowing for probable population increases after Oct. 31, 1958, these data suggest that total distribution in calendar year 1959 may approximate 9,050,000 tons, if there is no appreciable change in the level of invisible inventories during the year. In considering requirements, the quantity of 50,000 tons must be added to distribution to compensate for refining losses in excess of that provided for in the raw value formula.

"Inventories of quota sugar held

(Continued on page 107)

COMMERCIALLY RECOVERABLE SUGAR DETERMINATION 833.4 REVISED FOR LOUISIANA SUGARCANE, 1958 CROP

Hundredweights of Sugar, Raw Value, Commercially Recoverable Per Ton of Sugar Cane for Percentages of Sucrose in Normal Juice from 8.0% to 18.0%, Inclusive

Sucrose ormal Juice	Cwt. Sugar Per Ton Cane	% Sucrose Normal Juice	Cwt. Sugar Per Ton Cane	% Sucrose Normal Juice	Cwt. Sugar Per Ton Cane
8.0	.942	11.5	1.514	15.0	2.106
8.1	.958	11.6	1.531	15.1	2.123
8.2	.974	11.7	1.548	15.2	2.139
8.3	.989	11.8	1.565	15.3	2.156
8.4	1.005	11.9	1.581	15.4	2.173
8.5	1.021	12.0	1.598	15.5	2.189
8.6	1.037	12.1	1.615	15.6	2.206
8.7	1.053	12.2	1.632	15.7	2.223
8.8	1.068	12.3	1.649	15.8	2.240
8.9	1.084	12.4	1.666	15.9	2.256
9.0	1.100	12.5	1.682	16.0	2.273
9.1	1.115	12.6	1.699	16.1	2.290
9.2	1.131	12.7	1.716	16.2	2.306
9.3	1.146	12.8	1.733	16.3	2.323
9.4	1.161	12.9	1.750	16.4	2.339
9.5	1.176	13.0	1.767	16.5	2.356
9.6	1.192	13.1	1.784	16.6	2.373
9.7	1.207	13.2	1.801	16.7	2.389
9.8	1.222	13.3	1.818	16.8	2.406
9.9	1.238	13.4	1.835	16.9	2.422
10.0	1.253	13.5	1.852	17.0	2.439
10.1	1.271	13.6	1.869	17.1	2.456
10.2	1.289	13.7	1.886	17.2	2.472
10.3	1.306	13.8	1.903	17.3	2.489
10.4	1.324	13.9	1.920	17.4	2.505
10.5	1.342	14.0	1.937	17.5	2.522
10.6	1.360	14.1	1.954	17.6	2.539
10.7	1.378	14.2	1.971	17.7	2.555
10.8	1.395	14.3	1.988	17.8	2.572
10.9	1.413	14.4	2.005	17.9	2.588
11.0	1.431	14.5	2.021	18.0	2.605
11.1	1.448	14.6	2.038		
11.2	1.464	14.7	2.055		
11.3	1.481	14.8	2.072		
11.4	1.498	14.9	2.089		

PHYSICAL PROPERTIES OF SOILS IN THE SUGARCANE AREA OF LOUISIAN

by W. H. Patrick, Jr. and G. W. Shuker

Editor's Note—This is part of a paper read to the 10th Annua Meeting of the American Society of Sugarcane Technologists held i Thibodaux, La. June 10, 1958.

All of the soils in the Louisiana sugar belt are characterized by rather poor internal drainage. For effective internal water movement a soil should have a noncapillary porosity of at least 10% throughout the profile. Not even the Cypremont silt loam approaches this figure. The poor internal drainage of these soils is related to both the kind and amount of clay that is present in the profile. Pronounced swelling when wet and contraction when dry of the montmorillonitic type clays which are present in large amounts in the Mississippi River first bottom and Mississippi River Terrace soils prevent the establishment and maintenance of large pores in these soils. When wetted, these expanded clay particles decrease the size of the soil pores. The high silt content of certain layers of these soils contributes to their poor structure. The structural stability of layers high in silt is low, and when these layers are compacted, particularly by machinery, the swelling forces in the silt are not great enough to cause expansion during a wetting and drying cycle. This results in a high bulk density and a low noncapillary porosity.

Correct management is extremely important with the moderately fine textured soils in the sugarcane growing area. Plowing these soils at too high a moisture content results in deterioration of structure that slowly reversible. This condition illustrated by an experiment wi Mhoon clay loam in which the effe of various treatments on the stru ture of the soil were measured. T treatments used were (1) Puddli the soil when wet, (2) mixing a s conditioner (Krilium) with the so (3) Incorporating a green legum *Melilotus alba*, into the soil, and (Untreated soil. Physical properti of this soil 3 months after bei treated are shown in Table 1.

The most striking result of th experiment is the almost comple deterioration of structure as a resu of puddling the soil. Three montl after puddling, the aggregation, no capillary porosity or percentage large pores, water permeability, a bulk density values showed an e tremely poor structure as compar to the untreated soil. The addition Krilium improved the physical co dition of this soil. Although it is n economically feasible to add Krilliu at the concentration used in th study, 0.05% by weight, this trea ment was included for comparati purposes. The structure of this so was also improved by the use of legume, *Melilotus alba*.

Aggregation, noncapillary poros ty, water permeability, and bulk de

TABLE 1—Physical Properties of Mhoon Clay Loam

Treatments Used	Aggregation	Noncapillary Porosity	Water Permeability	Bulk Density
Puddled	7.0%	5.3%	0.16 in/hr.	1.45 gm/cc
Krilium added	32.7	10.7	0.52	1.31
M. alba added	26.1	14.6	1.51	1.24
Untreated	22.6	8.8	0.35	1.33

TABLE 2—Physical Properties of Commerce Loam

reatment Used	Organic Matter	Aggregation	Bulk Density	Noncapillary Porosity	Permeability.
ow crop annually. o cover crop or ertilizer.	0.65%	9.5%	1.37 gm/cc.	15.7%	0.32 in/hr
ow crop annually. 0 lb/acre N added nnually.	0.72	10.2	1.36	14.5	0.45
ow crop annually. airy vetch grown nnually.	1.21	21.3	1.32	17.8	0.58

y were all improved for at least e 3 month duration of this experient by incorporating this legume to the soil. The improvement in ese physical properties very likely counts for part of the yield ineases of sugarcane that generally tained following *M. alba.*

Another example of the effectiveess of legumes in maintaining favable soil structure is shown in the sults of a laboratory and field exriment on Commerce loam in Tens Parish. This is a moderately ell drained soil common to the sugcane area. In this experiment, a guminous cover crop, hairy vetch, as grown every year and turned unr in the spring. Also included in e experiment were a treatment that ceived fertilizer nitrogen every ring and an untreated check. All the plots were planted to a row op every year. These treatments ere continued for 25 years. Certain physical properties of this soil at the end of this time are shown in Table 2.

Where no cover crop was grown, the soil organic matter content was very low as compared to the organic matter where hairy vetch was grown. The physical properties of aggregation, bulk density, noncapillary porosity and permeability were all in line with the organic matter contents, with a poor physical condition indicated for all of the plots without vetch. The addition of fertilizer nitrogen increased the amounts of crop residue turned under, but this increased residue had no effect in increasing organic matter or improving the physical condition of the soil. This strongly suggests that the maintenance of organic matter and the favorable physical conditions associated with higher level of organic matter in this soil are dependent on turning under large amounts of leguminous plant material in addition to the nonleguminous crop residues.

P FRONT

(Continued from page 99)

the sudden death of Louis Cailuet, of Thibodaux, La. Mr. Cailuet suffered a heart attack in his ffice at the Caldwell mill on Demmber 29, 1958 and died in a Thibaux hospital shortly thereafter. He as forty-eight years old, and was e Secretary-Treasurer of the big aldwell Sugar Co-operative, Inc.

Like M. L. Marquette, whose eath we chronicled in our last sue, Mr. Caillouet was not only an ontstanding member of the Louisiana sugar fraternity, but he also was a tireless civic and religious worker whose sudden passing is mourned by the entire community he served. We extend our deepest sympathy to his wife and family.

Farm Forum To Meet

Mr. George R. Queen, Secretary of the Southern Farm Forum, has announced that the 12th annual meeting of the Forum will be held in the

(Continued on page 108)

A NEW CROP ROTATION SYSTEM

By F. Evans Farwell

Presented to the June 10, 1958 Meeting of the American Society of Sugar Cane Technologists, Thibodaux, La.

Reference is made to the article presented before this Association on March 1, 1955. A discussion of some of the experiments being conducted was included, and this paper concluded as follows: "It is hoped that newer and better experiments than those listed above can be started soon, with ideas and results pooled for the benefit of our industry. Certainly, if we can find economical ways to improve the physical condition of our soils, our efforts will not be in vain."

It is interesting at this point to look back at some of the various "rest crops" used over the past years in connection with sugarcane.

In the early days, straight corn was grown for mule feed, the residue being plowed down and the land planted in cane the same year. Then a progressive step was taken: cow peas and beans were interplanted with the corn. This improved the soil and worked well until the unfortunate spread of Johnson grass during the first World War. Interplanted corn and beans resulted in an ideal enviornment for the growth and seeding of Johnson grass. After 1947, where Johnson grass was a menace, corn and beans were planted separately. In many cases the corn was not followed by cane. However, in the case of beans, they were turned under in the early summer and the land fallow plowed until cane was planted in September.

We normally do not think of any part of the grinding season as a "slack period" but during late October and early November, the weather is generally good, with the result that the mills are over-supplied with cane and strictly enforce delivery quotas, with the result that during this period some tractors and labor are available to plow-out stubbles that are not to be kept for the following year.

A later evaluation of fallow plowing demonstrated that best results were obtained when the stubbles and rhizomes were destroyed in the fall.

Shortly after adopting fallow plowing as a regular method of controlling Johnson grass, it became apparent that eventually some means would have to be found whereby humus could be retuned to the soil. During the past 16 years an intensive search has been under way to find the ideal crop rotation system where Johnson grass could be controlled without destroying the humus content of the soil.

What was sought?

A crop:

1. That would have a heavy growth which would shade out or smother weeds.
2. That would provide its own nitrogen to hasten its decomposition after being turned under.
3. That could be plowed-down in sufficient quantity to add humus to the soil.
4. That could be planted in a "slack period."
5. That would have sufficient growth in the winter to help arrest soil erosion during the rains of January, February, and March.
6. That would not produce troublesome seeds for the following year.
7. That would continue to grow in the hot weather of May and June, or until the regular cane crop was laid-by; so that it would not need attention from the agricultural equipment and labor until the cane crop had been sprayed, fertilized, cultivated, and laid-by.

After three years of careful experimentation, we find that the following clovers meet the above specifications:

FLORANNA annual white sweet clover (Melilotus alba var.

annua Coe)

HUBAM biennial white sweet clover (Melilotus alba Desr.) Floranna is reputed to make an earlier and more luxuriant growth than Hubam. However, we have not been able to find any measurable difference between these two clovers.

As an unexpected "bonus" these overs bring large numbers of birds, hich are believed to help control sect, bugs, beetles, etc.

Some of the crops that we tried to t into the rotation system were: ats, Barley, Lupine, Kudzu, Rye, etches, Crotalaria, Singletary Peas, emp, Heavy Corn, Sorghum, Soy eans, Velvet Beans, Cow Peas, Les-edezia, and, of course, Melilotus ndica. For one reason or another, ese crops did not meet the specifi-tions. Melilotus Indica came clos-t, but it showed erratic growth, hich possibly was due to disease as uch, if not more than, to soil con-tions. The main point where Meli-tus Indica would not meet the speci-cations was that it would die out ith the first hot weather, with the sult that the Johnson grass would me through it, and agricultural uipment would have to be taken t of cane to plow the land.

In our case, Melilotus Alba was ied on a small scale in 1956. The sults looked so good that we put in on a full scale basis on five lantations in 1957. The same pro-edure was followed for the current ear. The very bad weather last fall revented the full planting at that me, and some of the seed was not lanted until February and early larch this year. In spite of an un-sually bad season, the Alba clover as again come up to expectations.

Where Johnson grass was a men-ce, it is noticeable that less appears here alba clover was planted and ne land fallow plowed in the summer nan where the stubble was plowed ut in the fall and the land fallow lowed all spring and summer. Simi-ar tests indicate better conditioned oil.

It is important that the seed be treated with inoculant before planting. At present it appears that 12 to 15# of seed per acre are the right amount, though as we gain experience, we may find that a lesser amount can be used. Good results have been secured where the old stubble was simply disced before planting the alba. However, where possible, it is best for the stubble to be broken out and the land plowed and disced before planting the alba clover.

For the second year, it is again planned to plant these clovers on the ditch banks of lands that are planted in cane in August or September, leaving the clover to smother weeds the following spring and early summer.

Where land is to be kept out of cane for two years—a two year fallow—alba clover appears ideal as a cover crop, as it can be handled with a minimum of labor. If allowed to go to seed the first year, the land can be fallow plowed four or five times during the summer and the clover, having reseeded itself, will require no attention until the following June.

———o———

QUOTAS

(Continued from page 102)

by refiners at the end of 1958 are expected to be larger than they were a year earlier but all of the increase will occur in the Gulf area and result from the availability of large quantities of new-crop sugar within the quota for the Mainland Cane Sugar Area. The distribution of beet sugar may be enlarged during the closing weeks of 1958 through actual deliveries, in-transit deliveries and constructive marketings as a result of market conditions and the absence of marketing restrictions. It is difficult at this time to anticipate whether refiners will desire larger or smaller year-end supplies in 1959 or whether beet processors will follow similar or different marketing practices in the closing weeks of next year.

"The wholesale price of refined sugar at New York is 9.35 cents per

(Continued on next page)

pound, or 94.4 percent of the level of the 9.90 cents computed in accordance with the Consumers' Price Index under the formula in section 201 of the act.

"No downward adjustment of supplies appears warranted under the price provisions of the act considering the recent market strength reflected by prices of beet sugar, spot raw sugar and new-crop futures. In view of the current supply uncertainties, it seems desirable to provide fully for 1959 needs. In light of the current strong demand and market conditions, it appears undesirable to cut total quotas for 1959 below the level of 9,200,00 tons now in effect for 1958. Accordingly, quotas of 9,200,000 short tons, raw value, are determined to be required to provide a supply of sugar in 1959 which meets the objective of the act."

—o—

UP FRONT

(Continued from page 105)

Roosevelt Hotel, New Orleans, on January 22nd and 23rd. The theme of the program this year will be "The Next Ten Years in Southern Agriculture".

As it has in the past, the program this year will feature outstanding agriculturists who will discuss many of the important problems of agriculture. The program will begin at 9:15 A.M. on Thursday, January 22nd and the last scheduled meeting for that day is the General Assembly which will convene at 2 P.M.

T. M. Barker, Vice-President of the American Sugar Cane League, who is also a Vice-President of Valentine Sugars, Inc., will be the featured speaker for the Louisiana sugar industry on the morning of January 22nd. The place is the Grand Ball Room.

On Friday, January 23rd, the General Assembly will convene at 9:15 A.M., and luncheon will be served at 12:15 P.M.

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in the interests of the Domestic Sugar Cane Industry

THE
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414 Whitney Bldg., New Orleans 12

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Lloyd L. Lauden, Agronomist and Field Representative

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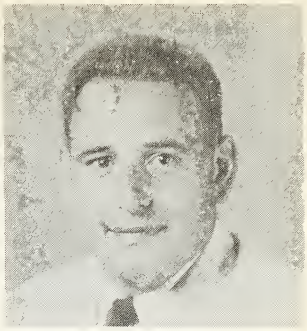
IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden



Get Most From Tires

Tractor and implement tires represent a sizeable investment for sugar cane growers and proper use and care of this investment will always pay off.

Representatives of tire manufacturing companies in the sugar belt have outlined an excellent guide for proper use and care of tires; outlined below are the most important points of good tire care. Check this guide and put this preventative maintenance to practice to save money.

1. *Inflation:* Use of proper inflation pressure is the most important factor in the satisfactory performance and maintenance of tractor and implement tires. Both under-inflation and over-inflation are harmful.

(a) *Under-Inflation:* Under-inflation will damage the cord body of the tire. It will cause a series of breaks in the cord fabric in the inside sidewall area. Under-inflation will result in repeated buckling of the sidewall and will exert a tearing action which breaks the inside cord fabric between the lugs and frequently manifests itself in breaks all the way through the tire at these points.

(b) *Over-Inflation:* Over-inflation should also be avoided. It reduces traction and results in excessive slippage, loss of draw bar horsepower, time and productive work. It causes the tires to wear more rapidly and bruise more easily. It increases rolling resistance.

(c) *Maintain Proper Air-Pressure* in accordance with the manufacturers inflation chart. Check air pressure in rear tires at least once a week. Check air pressure in front tires every day. The pressure gauge should be checked occasionally and a correction in the reading might have to be made.

(d) A special air-water inflation gauge made on non-corrosive material is available for testing tires with air, water or anti-freeze solution.

(e) Keep valve caps in place. Stop air escape at this point.

2. *Mount and Dismount Tires Properly:* Never use oil or grease in mounting or dismounting tires. Avoid use of sharp tools. Use a solution of vegetable soap and water.

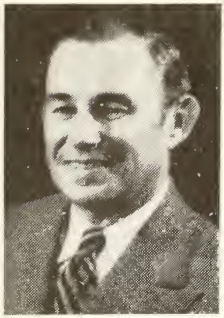
3. *Give Proper Rim Care:* Keep rims straight, clean. Correct the bends and thus prevent tire damage. New rims of improved width are available. They make tires, tractors and wagons perform better and more economically.

4. *Block Up Vehicles:* Take weight off the tires when not in use over a long period of time. Keep tires in a cool dry place out of direct sun rays. When put back in service, inflate at once.

5. *When Tractor with Implement is not in Use,* even overnight, place implement on the ground. Do not keep it aloft. Relieve this extra load from the tire.

6. *Speeding is Overloading:* It is dangerous and expensive. It de-

(Continued on page 116)



IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Assurance of a full sugar crop from Cuba and restored production in Hawaii and Puerto Rico, both of which were short last year because of a strike and drought respectively, should bring about a downward revision of the 1959 estimate of sugar consumption any day now. U. S. Department of Agriculture officials told Senator Allen Ellender some weeks ago that they would take a fresh look at the 1959 quota figures, which are unanimously considered by trade and government officials to be much too high, as soon as authentic information on the status of the current crop was obtained from Cuba. The question uppermost in the minds of domestic sugar producers is: How long will it take the Department of Agriculture to recognize "authentic" information, and act upon it?

The new Cuban government has decreed a crop of 5.8 million Spanish long tons. The Ministers of Agriculture and Labor, according to reliable information from American t rade sources are personally very active in speeding up the operating and processing of this crop. At present thirty mills are grinding and the remainder are supposed to be in full operation within the next two or three weeks. Even in Oriente Province, most of which was a battle ground during the recent revolution, operations are underway and it is understood that practically a full crop will be harvested there.

The reorganization of the Cuban Sugar Stabilization Institute, necessitated by the change in government, is expected to be completed and ap proved by President Manuel Urruti by February 1st. This may be wha the Sugar Division Director Larr Myers is waiting for before he de cides how much to cut the quota.

Senate Bill 187, a bill to extend th Sugar Act, introduced by Senato Ellender is now co-sponsored by for ty seven other prominent member of the United States Senate. Addi tional Senators, who are not co-spon sors have indicated they would sup port the measure. Representativ Harold Cooley of North Carolina Chairman of the House Agricultur Committee told a delegation of do mestic sugar producers that he would "at the proper time", introduce an sponsor a House Bill to extend th Sugar Act.

The U. S. Department of Agricul ture has issued a very interesting re port entitled, "Trends in the U. S Sugar Industry, Production, Process ing, Marketing." The report has beer published as Marketing Research Re port No. 294. The U. S. Department of Agriculture's Agricultural Mar keting Service report that in compar ison with many other farm products sugar in recent years has shown rela tive stability in supply, returns, and price. Much of this stability is at tributed to the effects of Federal sugar legislation, aimed at maintain ing balance in supply and demand. The purpose of the Sugar Act has been to assure producers of both cane and beet sugar a "fair" return for their products, and that con sumers pay no more than a reason-

(Continued on page 114)

T. M. BARKER ADDRESSES THE SOUTHERN FARM FORUM

The theme of this Twelfth Annual Southern Farm Forum is "The Next Ten Years in Southern Agriculture". I have been asked to discuss how legislation and vertical integration have affected and will affect the sugar cane industry.

Louisiana and Florida are the only two states which grow sugar cane for sugar. Louisiana produces about 3/4ths of the cane sugar produced in the United States, and my remarks will apply primarily to the Louisiana sugar cane industry.

Sugar legislation is generally conceded to be the most successful farm legislation. The sugar program has been in existence for almost twenty-five years. There have been amendments to the legislation from time to time, but the basic provisions of the sugar program have remained the same and have stood the test of time. It is my opinion that the type sugar legislation we now have will be continued at least for the next ten years.

I want to make it crystal clear that we who grow and process sugar cane are not satisfied with the administration of the price features of the sugar program. The Sugar Act gives the Secretary of Agriculture an indirect control over the price of sugar through the operation of the marketing quota system. The Act indicates that the price of sugar should rise in proportion to the increase in the general cost of living. This provision of the Act has been ignored by the Secretary of Agriculture and the price of raw sugar has remained almost constant during the last ten years while the cost of living, as everyone knows, has risen sharply.

I have been interested to observe the trend toward vertical integration in other agricultural pursuits during the last few years. There has been some vertical integration in the Louisiana sugar industry for many years. Forty per cent of the Louisiana cane crop is produced by firms which also process the cane. Nine of the forty-seven sugar cane mills in Louisiana are cooperative mills owned by the farmers who ship cane to those mills. One firm, which is a substantial grower of cane, owns two sugar cane mills. Another firm, which is also a large grower of cane, owns three sugar cane mills, one of which is also a refinery, producing and distributing refined sugar. As you can see, there is a large degree of vertical integration in this instance. This firm grows sugar cane, processes the cane into raw sugar, processes the raw sugar into refined sugar, and distributes the refined sugar. Still another firm, which is a very large grower of sugar cane, owns four cane mills, one of which is also a refinery, and two of which produce a direct consumption sugar for industrial sugar users. The controlling interest in this firm is owned by another corporation that produces building and insulation boards from sugar cane bagasse.

My own company grows sugar cane and processes cane into direct consumption sugar for industrial users. The people who own my company also own another corporation, which produces plastic resins from bagasse. The stockholders of my company also have a substantial interest in a paper mill which makes high grade paper from bagasse.

Now, in accordance with my assignment, I will discuss some of the things which may happen in the future. First I want it understood that I am not necessarily advocating the changes which I think will occur.

The number of sugar cane mills and the number of sugar cane farmers in Louisiana have been declining for many years. I see nothing in the picture to change that trend. In spite of the decrease in the number of sugar cane farms, the amount of acreage

devoted to sugar cane will increase when Government restrictions are lifted or relaxed. The explanation for this, of course, is the fact that the average acreage per farm will increase. The average size of the remaining mills will necessarily be larger for the reason there will be fewer mills to grind a larger volume of cane.

Some firms which now own one mill each may own two or more mills in the future. Those firms which now own more than one mill may gain control of additional mills.

Small cane farmers will continue to find it difficult to stay in business. Hand harvesting of cane is too expensive and many growers do not have large enough acreages to justify purchase of mechanical harvesters. Custom harvesting of sugar cane has been increasing in recent years and will likely increase further in the future. This reduces the cost of harvesting sugar cane below the cost of hand harvesting, but if the small farmer hires someone else to mechanically harvest his cane, the problem of how he can keep himself fully occupied at work which provides a good financial return is intensified.

In the future I believe we will see more processing of the by-products of sugar cane, bagasse and blackstrap molasses. I hope this processing is done in the sugar cane area and by plants owned partly or wholly by sugar cane growers and processors. More than half of our sugar cane bagasse is still being burned as fuel. It seems reasonable to expect that within the next ten years much of this bagasse will be put to uses of a higher order such as the manufacture of paper. There are two small feed mills owned by two sugar cane processors. These mills make use of blackstrap molasses in the manufacture of mixed feeds. We may see more of such feed mills in the future.

There are people in the Louisiana sugar industry who think there is considerable room for improvement in the method in which we sell our raw sugar and blackstrap molasses. Possibly the future will see some changes made. At present there are thirty-five sellers of raw sugar and only four major buyers of such sugar. In the case of blackstrap molasses there are thirty-eight sellers and only about a half dozen major buyers in any one season.

I believe it is generally understood that where there is a large number of sellers and a small number of buyers the sellers tend to get a lower price than they would if there were a few sellers and many buyers. Possibly the number of buyers cannot be increased, but the number of sellers could be definitely decreased. There has been some talk of establishing a single agency through which all raw sugar and blackstrap molasses would be sold.

At this point I think it appropriate that I say something about the Hawaiian sugar industry which is vertically integrated to a larger extent than any agricultural enterprise with which I am acquainted. Hawaii produces more than twice the amount of sugar produced in Louisiana. Ninety per cent of that sugar is produced by twenty-five plantations with mills. All these plantations market their raw sugar production through a refinery which they own in California and one in which they own a substantial interest in Sugar Land, Texas.

The raw sugar mills of Puerto Rico are presently considering the establishment of their own refinery in the United States.

Whether we like it or not, vertical integration in agriculture will probably continue to increase. It behooves each of us to continuously study our own individual operations with a view toward keeping pace with these changing times.

———o———

IN WASHINGTON

(Continued from page 112)

able price. A free copy of the Report No. 294 may be obtained from the Office of Information, U. S. Department of Agriculture, Washington 25, D. C.

SUGAR MARKET STATISTICS THROUGH JAN. 26, 1959

	Today	1 Month Ago	1 Year Ago
QUOTA RAWS DELIVERED NEW YORK	6.10	6.40	6.20
QUOTA RAWS DELIVERED NEW ORLEANS	6.05	6.34	6.18
RESIDUAL SPOT RAWS (In Cuba)	3.25	3.60	3.68

SUGAR FUTURES No. 6
(Closing Bid Prices)

	Mch.	May	July	Sept.
Today	5.58	5.60	5.66	5.71
1 Month Ago	5.87	5.84	5.89	5.92
1 Year Ago	5.66	5.67	5.75	5.79

OFFSHORE RECEIPTS AT NEW ORLEANS
(Long Tons, 2,240 lbs.)

	Dec. 26/58 Jan. 26 1959	Dec. 26/57 Jan. 26 1958	Jan. 1 Jan. 26 1959	Jan. 1 Jan. 26 1958
American	24,704	22,690	22,345	22,690
National (Godchaux)	2,750	9,152	None	9,152
Colonial	5,259	9,844	None	9,844
Henderson	5,100	3,044	5,100	3,044
Southdown	None	None	None	None
South Coast	None	None	None	None
Supreme	4,949	498	4,949	498
Totals	42,762	45,228	32,395	45,228

PRODUCTION OF SUGAR BY TYPES, LOUISIANA 1958 CROP

Raw Sugar, 96°	340,211 tons
Turbinados	40,040 tons
Granulated (Ref.)	44,492 tons
Granulated (Plt.)	7,187 tons
Total	431,930 tons
Total, Raw Value	442,793 tons
Estimated in Magma	67 tons
Total made and estimated (Raw Value)	442,860 tons
Cane Ground for Sugar (Net Tons)	4,868,908 tons
Sugar Produced per ton of cane	182 lbs.

Source: Processor reports to U.S.D.A.

PRODUCTION OF MOLASSES AND SYRUP, LOUISIANA 1958 CROP

Cane Syrup	1,246,002 gallons
1st Molasses	1,968,068 gallons
2nd Molasses	1,116,155 gallons
Blackstrap Molasses Produced	27,885,280 gallons
Blackstrap Molasses, 80° Brix	31,067,816 gallons
Hi-Test Molasses (Invert)	None
Cane ground for Syrup (Gross)	52,112 tons

Source: Processor reports to U.S.D.A.

IN THE FIELD

(Continued from page 111)

stroys tractor and tires. Control the speed in returning from field.

7. *Oil, Grease and Acids* are natural enemies of rubber. Keep tires free of these destructive agents.

8. *Never Use a Boot* except in an emergency and then for as short a time as possible pending a permanent repair.

9. *Apply Tires That Have Been in Stock Longest.*

10. *Check Roads* and yards to find and remove causes of tire damage.

11. *Use Adequate Wheel Weights:* Use adequate wheel weights to utilize tractor power and reduce frequent excessive slippage and consequent tire wear.

Every point in the guide is easy and inexpensive to follow. Why park a tractor or harvester where the wheels will be in grease? Oils, grease and fuels cause rubber breakdown. Why let fuel drip on a harvester tire during storage or at any time? It doesn't cost much time or money to block up an implement. Cleaning roads and headlands of junk iron doesn't take much time. Checking tire pressure is certainly not costly. Follow the guide and save money.

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UP FRONT WITH THE LEAGUE

by A. W. Dykers

A Letter From Mr. Myers

The price of raw sugar has dropped a half a cent a pound since the last day of 1958. The rapid decline began with the end of the Cuban revolution. On December 31, 1958 the New York price of raw sugar was $6.50 a hundred pounds. Today, (February 11th) raws are quoted in New York at $6.00 a hundred pounds. The New Orleans price, with the five cent freight differential, is $5.95 a hundred pounds.

We feel sure that everyone will be interested in a letter from Mr. Lawrence Myers, Director of the Sugar Division, to Mr. Gilbert J. Durbin, General Manager of the American Sugar Cane League, in response to a plea by the League that something be done to bolster the price of raw sugar before the end of the Louisiana Pricing Period.

Mr. Myers seems to agree that the price of raw sugar is too low. He is sympathetic but helpless. The letter follows:

Dear Gilbert:

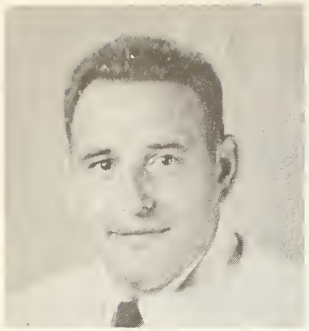
Thanks for your letter of February 3 concerning the sugar price situation and asking if something can be done to get prices back to a more satisfactory level.

The decline coming as it does before the end of the Louisiana pricing period is doubly unfortunate. To date, however, it seems to us that it has been entirely the result of technical and psychological factors rather than substantial changes in supply or demand. As you will recall, in December, with the same total estimate that we now have and unlimited provision for imports and refining in bond of over-quota sugar, the market climbed steadily to 6.50 cents per pound. During this time at least some refiners appeared to fear a cessation of Cuban exports during the early part of the year. They are reported to have covered the major part of their requirements for January and February from full duty countries, the Philippines and Puerto Rico. The sudden success of the revolution finds these refineries substantially supplied for their nearby requirements.

Although actual offerings of Cuban sugar appear to have been very small since the end of the revolution, buyers have been in a position to await declines and sellers have at times appeared insistent on disposing of their supplies. Let me repeat, however, that all information coming to us indicates that the quantities involved have been small.

On the crop side the developments to date have also been moderate. You will recall that immediately after the Batista capitulation there were rumors that Cuba would have unrestricted production. Actually the new government decreed a crop of 5,800,000 Spanish long tons compared with a crop of 5,900,000 Spanish long tons decreed by the Batista Government. Although the harvest is getting under way, it is not surprising, in light of the fundamental nature of the revolution, that the harvest is getting under way slowly. Accord-

(Continued on page 124)



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

After 30 years of dedicated service County Agent P. J. deGravelles has retired. During this period he gave much help, service, and counsel to both farmers and town folk alike. Mr. Pete has always been willing to work with any group whose interest is for the betterment of the parish.

He served untiringly on countless numbers of committees and gave unselfishly of his time. He worked very closely with all farm agencies and kept abreast of new developments. Mr. Pete knows Louisiana agriculture and he has a wonderful understanding of farm people.

It can be said without fear of contradiction that Mr. Pete loved his job and did it well. His record will serve as an inspiration to others in the field of Extension service. The American Sugar Cane League wishes a true friend happiness in his retirement.

Field work has begun on the 1959 cane crop, and it is now time to begin planning for some of the practices to be used. In this issue of The Sugar Bulletin on page 123 are the Recommendations for Johnson Grass Seedlings and Johnson Grass Control in Sugarcane by Mr. Ernest R. Stamper and Dr. S. J. P. Chilton of the Louisiana Agricultural Experiment Station. Growers who have a Johnson grass problem should not only read these recommendations but should keep this issue of The Sugar Bulletin for reference during the whole control program period.

Much work over many years ha gone into these recommendations. Re search has proven these recommenda tions will give good grass control i followed closely. To change or alte these recommendations on the farr to fit a particular operation can ma terially affect the results. Man growers were unable to do an effec tive job of controlling Johnson gras last year because of the rainy weath er. Some growers erroneousl thought the problem was under cor trol and relaxed control efforts. Gras sy fields hurt yields. Follow th recommendations, control Johnso grass, and increase profits.

In this issue of The Sugar Bulleti also appears a very good article o Mosaic disease by Dr. R. J. Steib an Dr. Irwin Forbes of L. S. U. Mosai disease could become a serious prob lem in some of the varieties grown An all out campaign to control Mosai disease will be conducted this yea by the L. S. U. Extension Servic through the County Agents. Th Pathologists of the U. S. D. A. an L. S. U. are continuing to do researcl studies on this disease and these sci entists will render as much servic as time will permit. This disease again came to the fore last year whe Dr. E. V. Abbott of the Houma Sta tion announced the finding of a nev and more severe strain of the disease Begin thinking about controling thi disease now. Attend the County Agents' meetings to learn more abou this disease.

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Production problems in Cuba, particularly with respect to labor, have slowed down grinding and threaten serious delay in harvesting the current crop.

The government has been asked to intervene in the squabble between labor and mill owners in an effort to step up production, and Fidel Castro has made a personal appeal to union leaders to stop bickering and put their members to work. It is understood that local labor leaders in many sections of the island are preventing mills from operating because of demands which, in many cases, are impossible to satisfy. In some instances the unions refuse to permit their members to work unless mill owners agree to return to work all employees who have been discharged since 1952, and to pay back wages in full to such employees. To date only thirteen of the thirty-four mills in Oriente Province, largest producing area in the island are grinding. The other mills remain closed because of labor difficulties.

Reorganization of the Cuban Sugar Stabilization Institute has not yet been completed. The Institute is being operated by a single individual, Alberto Fernandez. Mr. Fernandez is an engineer by profession, and has had wide experience in the operation of sugar properties. He is highly regarded by both mill owners and cane growers and according to advice from friends in Cuba, he hopes to have the Institute fully manned and operating as usual early in March.

It is interesting to learn that our sugar producing friends in Cuba are just as upset about the low domestic price of sugar as are the cane and beet producers in the United States. The Cubans completely disagree with our State and Agriculture Department's view point that a quota cut at this time would be regarded by the Cuban government as retaliation for some of the unfortunate utterances of Cuban Revolutionary leader, Fidel Castro, who on several occasions is reported to have been critical of the United States.

Senator Allen J. Ellender has been very active, but to date unsuccessful, in getting the Department of Agriculture to cut the top-heavy 1959 quotas. The Department's attitude was set forth by Assistant Secretary of Agriculture Marvin McLain, who on January 30th, wrote Senator Ellender as follows:

"Dear Senator Ellender:

"This is in further response to your several telephone calls concerning the recent decline in sugar prices. I can well understand the concern of Louisiana producers over these declines, particularly in view of the fact that they have occurred before the end of the Louisiana pricing period.

"The declines appear to be largely of a technical and psychological nature. Late last year our refiners apparently bought large supplies of world sugars for early 1959 arrival in the fear that the revolution in Cuba would result in protracted delays and possibly a major cut in the Cuban harvest. The quick

(Continued on page 124)

SUGARCANE MOSAIC AGAIN ON THE INCREASE-A WARNIN

By I. L. Forbes and R. J. Steib, Department of Plant Pathology
Louisiana State University

Many growers remember, from bitter experience, the role of mosaic in the failure of the old varieties. In fact, it is generally agreed by growers and plant pathologists alike that mosaic was one of the most important of the several diseases responsible for the failure of the old noble varieties about thirty years ago. At that time all varieties grown in the State were highly susceptible to the disease. The mosaic was brought under practical control by the development, release, and general planting of resistant varieties. The varieties grown for a number of years were so highly resistant that finding mosaic in a field in most areas was a rare thing. In more recent years, however, the predominant variety, C.P. 44-101 and the very popular variety N.Co. 310, have been showing mosaic symptoms in a number of areas. The same is true with the newly released variety C.P. 52-68. Dr. Abbott attributes this to a new strain of the mosaic virus. Regardless of the reason, the problem of mosaic in leading commercial varieties has again become very important. The thing for growers to realize is the seriousness of the disease and what to do about it. To say that losses would probably range from about 10 to 20 per cent, or possibly higher, in cane with all plants showing mosaic would probably be a safe generalization. The plain fact is that the disease is known to reduce yields, where all plants are affected, to a point that cannot be tolerated by a grower.

Recommendations for controlling mosaic:

1. Learn to identify mosaic in young plants in May or June. By counting mosaic plants, determine percentage of disease in a field o cane.

2. Where not more than 2 pe cent of the plants in *plant cane* shov mosaic, rogue (dig) out the entir diseased stalk (seed piece) and mak sure that the diseased plants do no again take root. Repeat the inspec tion and roguing in such seed plot through May and June, roguing a two or three weeks intervals. Do no try to rogue in stubble cane. Us rogued plant cane as seed cane.

3. Make sure, by careful inspec tion, preferably in early summer May or June, that all cane to b used for seed purposes is mosaic-free

4. If mosaic is found to be quit prevalent on a property, it is advise that grower *not* use his cane for see but that he secure moasic-free see cane of that variety from anothe source known to be free from th disease.

5. Make certain that all mosaic diseased cane is destroyed at the en of the first stubble crop.

If the above practices are followe religiously, a mosaic-infested prop erty could be cleaned up in a few years and it would be a simple mat ter to keep it clean thereafter. Re member, the heat treatment for th control of the ratoon stunting disease will not control mosaic. The mosai is easily spread in a field by aphids (plant lice) and once a plant get mosaic it always has mosaic, with few exceptions. The important con trol principles are: (1) prevent the build-up of the mosaic in a field by destroying the source of the mosai (diseased plants); and (2) do no use cane with mosaic for planting purposes.

RECOMMENDATIONS FOR JOHNSON GRASS SEEDLING AND JOHNSON GRASS CONTROL IN SUGARCANE

By Ernest R. Stamper and S. J. P. Chilton, Louisiana Agricultural Experiment Station, Department of Plant Pathology, Baton Rouge, Louisiana

Plant Cane

Fallow plowing: 6 to 8 times in the summer to control rhizomes is necessary to obtain satisfactory results with chemical herbicides the next year in plant cane.

Fall treatment:

1. Roll or pack tops or rows after planting.
2. Spray rows with one pound or 1 quart amine 2,4-D (40% acid 2,4-D) —acre.
3. Apply 4 to 7 pounds of sodium TCA after a rain, if needed.
4. Cultivate the sides of the rows and remove Johnson grass plants that have survived the fallow plowing and the chemicals.
5. *Do not* apply Dalapon on cane in fall of year.

Shaved Cane (Plant)

Spring treatment:

1. Apply 4 lbs. TCA after offbarring with or without 2,4-D-1 lb. per acre. Be sure the sides of the bar or row are covered with the spray.
2. Apply *either* of the following after fertilizing:
   a. 4 lbs. TCA plus 1 lb. 2,4-D-acre.
   b. *2 lbs. TCA* plus *1 lb. Dalapon* plus 1 lb. 2,4-D mixed together-acre.
3. Remove Johnson grass plants missed in the operations. Control tie-vines by either:
   a. 2 lbs. (blanket) 2,4-D per acre after layby.
   b. Airplane spray late July or August.
4. If plant cane is not shaved use No. 1 and b of No. 2 from above.

Stubble Cane

1. If stubble cane is shaved and offbarred as a single operation 11 lbs. TCA plus 1 lb. 2,4-D—acre may be used if applied *immediately* after shaving and offbarring.
2. Apply 4 lbs. of Dalapon/acre on C.P. 44-101 and C.P. 36-105 after the cane is fertilized and Johnson grass is not over 8 inches high, *if needed,* either alone or following the 11 lbs. TCA applied at shave and offbar.
3. If stubble cane is *shaved,* and offbarring is delayed for several weeks, mix together *7 lbs. TCA* plus 2 lbs. Dalapon plus 1 lb. 2,4-D per acre, and apply after offbarring. One pound of 2,4-D should be applied before offbarring to stubble cane that is not shaved to kill the winter and early growing broadleaf weeds. Apply *7 lbs. TCA* plus *2 lbs. Dalapon* per acre after offbarring and at the time of fertilizing, *1 lb. of 2,4-D* may be added if needed. The combination of chemicals should be applied before the Johnson grass is 10 inches high.

Spot Treatment

Spot treatment rather than the above program is recommended where less than an average of one stool of Johnson grass is heading every 50 ft. of row and seedlings are known to be relatively few.

1. Apply 1 lb. acid equivalent of the amine salt of 2,4-D per acre on 24" to 30" band on drill, either after shaving, or if cane is not shaved, early in the season or when offbarring is done.
2. Spot spray the Johnson grass plants when they can be seen above the cane, with one of the four following solutions:
   a. 1 to 1½ lbs. of sodium chlorate plus ½ to ¾ lb. of calcium chloride per gallon of water.
   b. ¾ lb. of 90% sodium TCA per gallon of water.
   c. ¼ lb. of 85% sodium Dalapon per gallon of water.
   d. ½ lb. of TCA plus ¼ lb. of Dalapon per gallon of water.

(Continued on next page)

GRASS

Any of the above solutions will kill Johnson grass plants. It is necessary that the Johnson grass plants be covered with the spray solution.

Chemical Weed Control in Sugarcane Where Johnson Grass is Not a Problem

1. Areas with little or no grass

a. Spray with 1 lb. 2,4-D/acre late February or March.

b. Spray with either 2 lbs. TCA plus 1 lb. Dalapon and 1 lb. 2,4-D per acre or spray with 2 lbs. Dalapon plus 1 lb. 2,4-D after fertilizing. Direct the spray on the grass and keep off the sugarcane by removing or closing the center nozzle and adjusting the two outside nozzles.

Broadleaf Weeds in Sugarcane that Are Not Killed by Using 2, 4-D

Some broadleaf plants are not killed with *2,4*-D. Data indicate that Silvex is safe to use in sugarcane instead of 2,4-D. If interested in trying this chemical in the control of "hard to kill" plants such as wild lettuce, 1 lb. or 1 quart per acre of Silvex should be applied when the lettuce is about 10 inches high. A second application of the same material at the same rate may be needed and is safe to use in sugarcane. The material may be purchased under the trade names of Kuron, Propon 4, and possibly others.

———0———

IN WASHINGTON

(Continued from page 121)

success of the revolution eliminated fears of drastics shortages in the sugar supplies. Fortunately the harvesting in Cuba is getting under way but some mills are starting to grind later than usual.

"We have no evidence of excessive offerings of Cuban sugar. However, present sellers are finding our refineries well stocked. For the time being refiners appear able to delay purchases and await price concessions. We do not know how long they will be able to continue these practices.

"Let me assure you the Department is keeping the situation under careful review, especially as to the basic matter of availability of supplies. As you know, the Department is equally concerned with avoiding shortages. We shall undertake to inform you promptly of any significant developments."

———0———

UP FRONT

(Continued from page 119))

ing to the latest reports just over half as many mills are grinding now as were grinding on the corresponding date a year ago. Clearly, we have no evidence of mounting surpluses.

I know of nothing effective that could be done at the moment to improve the market. Developments to date would hardly support a quota change and, in any event, it is doubtful that a quota change would affect the market. Certainly a revision in the quota would not change the technical situation and it could not affect current offerings. Most important, action by the government which might be interpreted as a futile gesture conceivably might injure the market rather than improve it.

In light of these conditions there seems to be nothing that can be done until there is a clear cut change in the supply or demand situation. In the meantime we shall certainly hope that improvement in sugar prices will come before the end of the Louisiana pricing period.

Sincerely yours,
Lawrence Myers
Director

Short Course

Dr. Fred H. Fenn, Dean of the College of Engineering and Director of the Engineering Experiment Station of Louisiana State University,

has asked us to announce that the Twenty-second Annual Short Course for Superintendents and Operators of Water and Sewerage Systems will be held at Louisiana State University, Baton Rouge, La., on March 18th, 19th and 20th. Those desiring to enroll in this course should get in touch with Dean Fred H. Fenn as soon as possible.

Keller Elected

Dr. Arthur G. Keller, Professor of Chemical Engineering, Louisiana State University, was elected President of the American Society of Sugar Cane Technologists at a meeting of the Society held in Baton Rouge, La. on February 12th. Dr. Keller succeeds A. L. Dugas whose term expired with the new elections.

Other officers elected were Lloyd L. Lauden, 1st Vice-President, James H. Thibaut, 2nd Vice-President, John Best, Chairman of the Agriculture Section, Paul S. Beyt, Jr., Chairman of the Manufacturing Section, Lester G. Davidson, Secretary - Treasurer, and Frank L. Barker, Jr., Chairman at Large.

The meeting began at 9:30 in the morning in the Agricultural Engineering Auditorium of Louisiana State University and the program was as follows:

Agricultural Section
Morning Session

Studies on Cane Quality of Mill Cane as affected by topping and trash—Robert Coleman, USDA

Endrin to Control the Sugarcane Borer — S. D. Hensley and Henry Long

The Imported Fire Ant Control Program and its Effect on Sugarcane Borer Infestation — E. A. Cancienne, State Entomologist

Sugarcane Breeding and Selection at L.S.U.—Dr. Richard Breaux

Manufacturing Section
Afternoon Session

The Cary Harvester Combine — Charles Savoie and R. E. Shafer

The Rotabelt Filter — Donald Dahlstrom

Improving Mill Drainage with Messchaert Grooving—Charles Avrill

The Problem of Excessive Trash at Glenwood Sugar Factory — Louis Suarez, Chief Engineer

More Effective Clarification—M. M. Moron and A. G. Keller

The Annual Banquet was held in the Capitol House Hotel beginning at 6:30 P.M. Mr. Sydney McCrory, Louisiana Commissioner of Agriculture was the featured speaker. It was at this banquet that the new officers were installed.

Marketing Allotment Hearing Set

The U. S. Department of Agriculture has announced that a public hearing regarding allotments to processors of the 1959 sugar quota for the Mainland Cane Sugar Area will be held March 10, 1959, beginning at 10 a.m. (CST) in the auditorium of the International House, in New Orleans, La. We quote below the last paragraph from the official announcement of the hearing.

"Purpose of the hearing is to receive evidence which will enable the Secretary of Agriculture to make efficient and equitable distribution of the 1959 quota for the area. Such allotment now appears necessary to prevent disorderly marketing and to provide each Mainland Cane sugar processor an equitable opportunity to market sugar within the quota."

World Beet Sugar Production

World sugar beet production during the 1958-59 season is estimated at 153.5 million short tons, compared with 145.5 million tons in 1957-58, according to the U.S.D.A.'s Foreign Agricultural Service. The larger harvest will result from further expansion of acreage in many countries, from a reported increase in sugar production in Mainland China, and from favorable growing conditions.

Although yields are lower than last year, they are higher than average

(Continued on next page)

yields from 1950-51 through 1954-55 and in 1956-57. Harvested acreage in 1958-1959 is placed at 14.9 million, which is 9 percent higher than 1957-58 acreage of 13.6 million.

Common Market countries account for 2.0 million tons of the estimated increase, and Communist countries, 5.1 million tons. The increased acreage in the Common Market countries is 265,000 and in the Communist countries, 752,000 acres.

Plan Bulk Futures Contract

Due to the rapid change taking place in the method of sugar shipments to the United States, from bag to bulk, the New York Coffee and Sugar Exchange, Inc., is creating a bulk futures contract, according to Charles S. Lowry, president.

Under the provisions of Raw Sugar Contract No. 6, futures trading on the Exchange is confined to sugar shipments in bags. As a result of the accelerated trend toward bulk deliveries to American ports, a substantial amount of sugar has been removed from Exchange trading.

"Due to this steady increase of shipments in bulk, the Sugar Committee plans to broaden the hedge facilities of the Exchange by the creation of a contract that will provide for bulk deliveries," Mr. Lowry stated. He said that a great deal of study and work has been done already on this proposed contract and it is hoped that it can be submitted to the membership of the exchange in the not too distant future.

It is estimated by industry officials that 50 per cent of all sugar coming to American ports is being

(Continued on page 128)

Weekly Average Prices

The weekly average prices issue by the Louisiana Sugar Exchang since the start of the 1958-59 Louisi ana Pricing Period have been as fo lows:

Week ending October 16, 1958
Raws 6.41, Blackstrap nomina
Week ending October 23, 1958
Raws 6.43, Blackstrap 13.00
Week ending October 30, 1958
Raws 6.45, Blackstrap 13.00
Week ending November 6, 1958
Raws 6.43, Blackstrap 13.00
Week ending November 13, 1958
Raws 6.285, Blackstrap 12.54
Week ending November 20, 1958
Raws 6.25, Blackstrap 12.25
Week ending November 27, 1958
Raws 6.255, Blackstrap 12.25
Week ending December 4, 1958
Raws 6.32, Blackstrap 12.00
Week ending December 11, 1958
Raws 6.41, Blackstrap 12.00
Week ending December 18, 1958
Raws 6.42, Blackstrap 12.25
Week ending December 25, 1958
Raws 6.38, Blackstrap 12.875
Week ending January 1, 1959
Raws 6.41, Blackstrap 13.00
Week ending January 8, 1959
Raws 6.21, Blackstrap 13.125
Week ending January 15, 1959
Raws 6.08, Blackstrap 13.125
Week ending January 22, 1959
Raws 6.09, Blackstrap 12.825
Week ending January 29, 1959
Raws 6.03, Blackstrap 12.75
Week ending February 5, 1959
Raws 5.97, Blackstrap 12.50
Week ending February 12, 1959
Raws 5.95, Blackstrap 12.25

Average through week ending Feb ruary 12, 1959.

Raws 6.2655

Blackstrap 12.6318

SUGAR MARKET STATISTICS THROUGH FEB. 13, 1959

	Today	1 Month Ago	1 Year Ago
QUOTA RAWS DELIVERED NEW YORK	6.00	6.15	6.20
QUOTA RAWS DELIVERED NEW ORLEANS	5.95	6.10	6.17
RESIDUAL SPOT RAWS (In Cuba)	3.10	3.25	3.55

SUGAR FUTURES No. 6
(Closing Bid Prices)

	Mch.	May	July	Sept.
Today	5.50	5.55	5.68	5.73
1 Month Ago	5.61	5.63	5.72	5.77
1 Year Ago	5.69	5.70	5.74	5.77

OFFSHORE RECEIPTS AT NEW ORLEANS
(Long Tons, 2,240 lbs.)

	Jan. 13 Feb. 13 1959	Jan. 13 Feb. 13 1958	Jan. 1 Feb. 13 1959	Jan. 1 Feb. 13 1958
American	32,278	31,184	39,349	36,937
National (Godchaux)	7,190	12,252	7,190	12,252
Colonial	3,230	13,279	3,230	18,773
Henderson	10,383	5,488	10,383	5,528
Southdown	2,390	None	2,390	None
South Coast	2,510	2,516	2,510	2,516
Supreme	7,908	4,021	7,908	4,021
Totals	65,889	68,740	72,960	80,027

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UP FRONT

(Continued from page 126)

transported in bulk. The trend is expected to continue at an accelerated rate because of the economies that can be realized in the elimination of costs for bags and in the reduction in the number of steps necessary to load and unload the ships.

Pointing out that volume of trading under Contract No. 6 continued to shrink in 1958, Mr. Lowry noted that during the past seven years trading his dwindled by 70 per cent. The downward trend in volume is not due entirely to the changeover from bag to bulk deliveries. He blamed "rigid government controls which discourage traders from entering a market in which the rules governing supply and demand can be changed at will by government fiat."

During 1958, under Contract No. 6, 1,169,750 tons of sugar were traded, as compared with 1,573,300 for 1957. The volume of trading in Contract No. 4 (World Sugar) fell short of the 1957 record but a total of 4,502,450 tons was recorded for the year.

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We stand for the encouragement of Home Industries as against Foreign Competition

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Unrealistically high sugar quotas, ot only in the United States but ıroughout the world, have depressed rices to such an extent that the ıternational Sugar Council met in mergency session in London, Febru- ry 20th. The Council announced an ımediate reduction of 2½% in orld export quotas effective Feb- ıary 21st. Council action was taken fter the export price had held be- w 3.25¢ f.a.s. Cuba for seventeen ıccessive days.

Further quota reductions were dis- ıssed by the Council because of the robability that the 2½% reduction ould not be sufficient to stabilize ıe price. Under the terms of the ıternational Sugar Agreement, if ıe price stays under 3.15¢ for as ıany as seventeen successive days, ırther quota reduction of from 10%) 20% is mandatory.

Now that the International Sugar ouncil has pointed the way, perhaps ıe U.S. Department of Agriculture ill feel justified in reducing U. S. ıotas which are considered by most ıarket experts to be at least 200,000 ons too high.

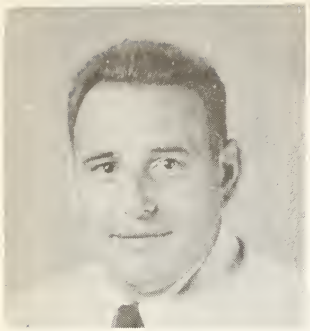
Cuba's new Ambassador to the nited States, His Excellency Ernes-) Dihigo, arrived in Washington ebruary 21st and presented his cre- entials to the State Department and) the White House. Ambassador ihigo is a Doctor of Civil Law and Doctor of Philosophy of letters of avana University. He has been Pro- ssor of Roman Law at the Univer- ty School of Law since 1917 and ean of the School of Law 1941-1943. e was Minister of Foreign Affairs of Cuba 1950-1951. He was Ambas- sador to the United Nations 1951- 1952 and headed the Cuban Dele- gation to the 4th Conference of Min- isters of Foreign Affairs of the American Republics in Washington. He is the author of numerous books and articles on law.

Louisiana's senior Senator, Honor- able Allen J. Ellender apparently is not in the good graces of Cuba's new strong man, Fidel Castro. The latter part of 1958 Senator Ellender, as a special representative of the Senate Committee on Appropriations, visited the various U. S. Embassies in Cen- tral and South America, ending his tour at the U. S. Embassy in Havana last December, shortly before Castro took over the Cuban government.

While in Cuba the Senator was shown some of the outstanding sugar properties and other developments of the island. In response to queries from newspaper men, Senator El- lender spoke highly of what he had seen and complimented the persons responsible for the economic progress since his last visit. Because some of the people whom Senator Ellender complimented were members of ex- President Batista's regime, which was then in power, his remarks have been severely criticised by members of the new administration in Cuba.

When Secretary of Agriculture Benson appeared before Senator El- lender's Committee on Agriculture to testify on the new domestic farm program, Secretary Benson referred to S.187, a Bill to extend the Sugar

(Continued on page 133)



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

The chances are that the Louisiana sugar cane industry will have one of the best plant cane stands it has had in a long time.

The summer plant cane is beginning to show itself well through the dead trash left on the row. The seed piece of the summer plant cane and the eyes on the shoots which emerged last fall are in good condition at this time. This is true for summer plant cane in both heavy and light soils.

In general, seed pieces of fall plant cane and cane planted before the second week of October are in excellent condition. Stands are beginning to show well now. In some varieties the inside of the seed piece is still very white and field laborers have been seen chewing the seed where rights-of-way have cut through the fields and destroyed the cane.

There was much concern over some of the fall planted seed at one time. Much of the late fall planted cane was planted in a dry seed bed. Because of the small amount of rainfall received in early October, growers were somewhat pessimistic about the future of this seed.

Much of the cane planted after about October 10 and through the end of October was planted in an extremely dry seed bed. Growers have been very worried about this seed but cane planted at that time is coming up nicely on the lighter soils and the seed pieces are soun considering conditions under whic this seed was planted. Cane plante at the same time in the heavy soi is also beginning to show signs o making a stand. These seed piece in many varieties planted in heav soils are not in the best conditio The seed pieces became somewha dried out and the tops shriveled. I spite of this condition, however, th eyes are germinating and if warn weather continues this cane will als make a good stand. It is suggeste that the winter cover crop be re moved from this seed immediately.

The seed pieces of cane planted i November and later and before th severe freezes occurred are in goo condition. This cane is beginning t show on the row and the eyes ar germinating well. Cane planted a this time has given excellent stand in the past several years.

Stubble cane is certainly showin signs of making a good stand. I appears at this time that the onl poor stubble cane will be that whic will be a carry-over from some of th poor plant cane of last year. Eve C.P. 36-13 which is somewhat slo to show a stand in stubble cane i marking the row well.

At the time of this writing, Febru ary 24, the fields are showing som green color from sprouting cane. I is hoped that the industry can b spared another killing freeze.

1959 FERTILIZER RECOMMENDATIONS FOR SUGARCANE

(Prepared jointly by M. B. Sturgis and Laron E. Golden of L.S.U. and Lester Davidson of the U.S.D.A.)

Fertilizer recommendations for sugar cane were prepared jointly by the Louisiana Agricultural Experiment Station and the U. S. Department of Agriculture Sugar Station, Houma, Louisiana.

To plant cane on light and medium textured soils apply 40 to 60 pounds of nitrogen per acre by use of any of the common carriers. On heavy textured soils apply 60 to 80 pounds of nitrogen. Where the green weight of legumes turned under ahead of planting cane is as much as 8 to 10 tons per acre, it is not necessary to fertilize plant cane. In most cases the yields of legumes are not this high. Where poor legume growth has been observed, responses to P_2O_5 and K_2O can be expected.

On stubble cane on the medium textured to heavy alluvial soils of the Mississippi or Red River bottoms, use 80 to 100 pounds of nitrogen per acre. Where known deficiencies of phosphorus and potassium exist, which is usually in the very fine sandy loam and silt loam types, 25 to 40 pounds of P_2O_5 and 40 to 60 pounds of K_2O should be applied in addition to nitrogen. In some cases the plant food may be supplied by the application of 500 pounds of 5-10-15 or 0-14-14 per acre supplemented with 60 to 100 pounds of nitrogen from either solid or liquid materials.

To stubble cane on the medium to light textured soils of Pleistocene Mississippi Terraces, which areas are largely west of the Teche and include the Richland, Oliver and Iberia soils series, apply 80 to 100 pounds of N, 25 to 40 pounds of P_2O_5 and 40 to 60 pounds of K_2O.

Nitrogen may be supplied from any commonly available solid or liquid material. Where anhydrous ammonia is being used to supply nitrogen, minerals may be applied either before the ammonia or in the same operation from hoppers mounted on the sides of the tractor. The practice of splitting applications of nitrogen to stubble cane on medium textured soils where as much as 80 or more pounds of nitrogen is applied is proving profitable in some cases. Half of the nitrogen can be applied four inches deep in the middles at the last cultivation. Ammonia and other highly soluble carriers of nitrogen are especially adaptable to split applications.

IN WASHINGTON

(Continued from page 131)

Act indefinitely, introduced by Senator Ellender and sponsored by 47 other members of the U. S. Senate. Secretary Benson said that because of the political situation and the possibility that Cuba might not be able to supply her quota, perhaps it would be better for Congress to delay action on the Bill to extend the Sugar Act until "we see what happens in Cuba". After a friendly exchange of ideas on the subject Senator Ellender agreed with Secretary Benson that it might be a good idea to hold up action on the Sugar Bill temporarily.

Senator Ellender made it clear that it was not his intention to delay action on the Bill indefinitely. He said he thoroughly understands the need for extending the Act this year rather than waiting until shortly before the present Act expires, the end of 1960.

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One Fairbanks-Morse double tank juice scale, complete with 1000-gallon tanks and two 10,000-pound type recording weigh beams and supporting steel frame. Scale suitable for weighing juice, molasses, or any similar liquid and can be inspected at Greenwood Factory.

1958-59 PRICING PERIOD COMPLETED

The 1958-59 Louisiana Pricing Period came to a close on February 26th when the Louisiana Sugar Exchange announced that the season's average price for raw sugar, delivered New Orleans, was 6.2312 cents a pound and that the season's average price for blackstrap molasses, f.o.b. Plt., was 12.5653 cents per gallon. The weekly quotations were as follows:

Week ending October 16, 1958
Raws 6.41, Blackstrap nominal.

Week ending October 23, 1958
Raws 6.43, Blackstrap 13.00

Week ending October 30, 1958
Raws 6.45, Blackstrap 13.00

Week ending November 6, 1958
Raws 6.43, Blackstrap 13.00

Week ending November 13, 1958
Raws 6.285, Blackstrap 12.54

Week ending November 20, 1958
Raws 6.25, Blackstrap 12.25

Week ending November 27, 1958
Raws 6.255, Blackstrap 12.25

Week ending December 4, 1958
Raws 6.32, Blackstrap 12.00

Week ending December 11, 1958
Raws 6.41, Blackstrap 12.00

Week ending December 18, 1958
Raws 6.42, Blackstrap 12.25

Week ending December 25, 1958
Raws 6.38, Blackstrap 12.875

Week ending January 1, 1959
Raws 6.41, Blackstrap 13.00

Week ending January 8, 1959
Raws 6.21, Blackstrap 13.125

Week ending January 15, 1959
Raws 6.08, Blackstrap 13.125

Week ending January 22, 1959
Raws 6.09, Blackstrap 12.825

Week ending January 29, 1959
Raws 6.03, Blackstrap 12.75

Week ending February 5, 1959
Raws 5.97, Blackstrap 12.50

Week ending February 12, 1959
Raws 5.95, Blackstrap 12.25

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Pasadena, Texas

Week ending February 19, 1959
Raws 5.94, Blackstrap 12.00
Week ending February 26, 1959
Raws 5.905, Blackstrap 12.00

—0—

STATE ELECTS OFFICERS

The thirty-second Annual Meeting of the State Agricultural Credit Corporation was held in New Orleans on February 18th and Mr. R. M. Murphy, who has headed this agency for over twenty-five years, was re-elected President. Other officers elected were Lester C. Gerard, 1st Vice-President, J. J. Munson, 2nd Vice-President, Oralee C. Schulz, Secretary-Treasurer, and E. D. Gelzer, Ass't. Secretary - Ass't. Treasurer.

Elected to serve on the Board of Directors during the ensuing year were E. J. Beaullieu, George P. Bywater, W. K. De Pass, Jr., F. Evans Farwell, John F. Finke, E. D. Gelzer, L. C. Gerard, Wm. J. Gibbens, Jr., Milton F. Hilbert, Thomas B. Kenhair, James H. Kepper, Richard McCarthy, Jr., J. J. Munson, Richard M. Murphy, Raphael Ross, Felix H. Savoie, Harold Scherer, Oralee C. Schulz, B. C. Thomson and S. L. Wright.

In his annual report to the stockholders, Mr. Murphy stated, "During the year, we loaned $1,462,138.53 to 123 farmers to plant and cultivate 26,862 acres of sugarcane, rice, and to purchase farming equipment, and for cattle loans.

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THE SUGAR BULLETIN

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THE
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Lloyd L. Lauden, Agronomist and Field Representative

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UP FRONT WITH THE LEAGUE

by A. W. Dykers

Marketing Hearing

The Government Hearing on 1959 mill marketing allotments was held in New Orleans on March 10th with John Curry, U.S.D.A. Hearing Officer, presiding. Testifying for the Sugar Division was Donald M. Swartz, Chief of the Quota and Allotment Branch of the Sugar Division.

Thanks to an efficiency developed through years of practice, these hearings have become models of procedure and this one was no exception. Mr. Curry called the meeting to order promptly at the appointed hour of 10 A.M. and by eleven o'clock it was all over. During the hour the record had received testimony from Mr. Swartz for the Sugar Division, W. S. Chadwick for the Louisiana processors, Harry T. Vaughn for the United States Sugar Corporation of Clewiston, Florida, and George Salley for the Okeelanta Sugar Refinery of South Bay, Florida, and not a cross word had been spoken. This must be some sort of a record for speed and tranquility.

Beginning on page 142 of this issue you will find the prepared testimony that Mr. Chadwick, speaking as Chairman of the Industry Mill Marketing Allotment Committee read into the record of the Hearing. This testimony was first endorsed by Mr. Vaughn and then by Mr. Salley. Mr. Swartz previously had announced that the complete agreement of all processors involved made it unnecessary for the Sugar Division to make any specific recommendations.

Enterprise Burns

The Enterprise Sugar Factory of A. M. Patout & Sons, Ltd., Patoutville, La. suffered a disastrous fire on the morning of March 3rd. The plant was badly damaged before the fire could be brought under control.

Enterprise was one of the oldest sugar mills in the State, as far as continuous operation is concerned, having been established in 1830. It is noted, however, that it was also one of the most efficient plants in the State. Last season it handled cane from more than 160 farmers and produced over 12,000 tons of sugar, raw value.

The question uppermost in the minds of the people around Patoutville and throughout the rest of the sugar belt is whether it will be possible to rebuild Enterprise. We understand that the management is making plans to do just that and we wish them great success in their tremendous undertaking.

Proportionate Shares

Elsewhere in this issue we are printing the official Government order lifting acreage allotments for 1959. We hope most farmers took the repeated advice of the American Sugar Cane League and kept their best plots of 2nd year stubble as insurance in case the acreage allotments were lifted.

It is unfortunate that the lifting of restrictions could not have been announced sooner but perhaps we should be thankful for all small favors and hope that the decision for 1960 will be forthcoming in time for all to participate.

IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

The Annual Spring Meeting of the Contact Committee of the American Sugar Cane League will be held this year on Tuesday the 24th of March. The meeting place will be the Agricultural Engineering Auditorium on the L.S.U. Campus in Baton Rouge, Louisiana. Dr. Charles Upp, Director of the Experiment Station and Mr. Malcolm Duhe, Chairman of the Committee, have extended a special invitation to all sugar cane growers to attend this important and informative meeting.

A schedule of the program is printed below to show the important phases of research which will be discussed at the meeting.

Program

Morning

9:30- 9:55—Insect Investigations—
W. H. Long and
E. J. Concienne

9:55-10:20—Test Fields—
T. J. Stafford and
R. J. Matherne

10:20-10:35—Recess

10:35-11:00—Sugarcane Varieties—
E. C. Simon

11:00-12:00—Seed Production and Breeding (in general)
S. J. P. Chilton
Sugarcane Breeding—
R. D. Breaux

12:00- 1:30—Noon Recess

Afternoon

1:30- 2:15—Agricultural Engineering Investigations
M. M. Mayeux and
W. H. Carter
Deep Tillage—
I. L. Saveson and
Z. F. Lund

2:15- 2:40—Ratoon Stunting Disease of Sugarcane—
R. J. Steib and
I. L. Forbes

2:40- 3:00—Sugarcane Weed Control—E. R. Stamper

3:00- 3:30—Cost Studies—
J. R. Campbell

3:30- 4:00—Fertilizer Studies with Sugarcane—
L. E. Golden and
M. B. Sturgis

Each subject on the program has as its aim increased yields either for the present or for the future. One important subject that will be fully covered in the meeting is the new insecticide, endrin, now recommended by L.S.U. and the U.S.D.A. for the control of the sugar cane borer. Growers who used endrin last year were very satisfied with the results received.

Results obtained last year in the variety test fields should be of special interest to every cane farmer. The data will indicate the varieties which produced more sugar and cane per acre. More cane or sugar per acre generally means more profit per acre.

A discussion of the unreleased varieties and the cane breeding program should be of importance to cane growers. Ultimately the successful future of the industry will depend largely upon the varieties to come.

All growers should be anxious to learn more about stunting disease, mosaic, and weed control. The work done on a mechanical cane planter and the quarter drain plow, as well

(Continued on page 147)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

The Okeelanta Sugar Refining Corporation, Inc., of South Bay, Florida, has purchased the sugar mill and properties of the Fellsmere Sugar Producers Association of Sebastian, Florida. Announcement of the purchase was made by Mr. M. L. de Quintana, Vice President and General Manager of the Okeelanta Company. According to Mr. de Quintana the acquisition of the Fellsmere Company was a result of nearly three years of negotiations.

According to Mr. de Quintana, his company plans to close the Fellsmere plant some time in the future, possibly at the conclusion of the 1959-1960 harvest season. The marketing quotas and acreage allotments of Fellsmere will be transferred to Okeelanta because of the better milling facilities and where much larger yields of sugar cane are obtained.

The Okeelanta properties are located in the heart of the Florida Everglades, just south of Lake Okeechobee. The rich muck land in that area produces fabulous tonnages of sugar cane.

The second session of the International Sugar Council was held in London February 25 and 26 in order to deal with unusually low prevailing sugar prices.

The Council reduced sugar export quotas by approximately 1,150,000 tons in an effort to bolster the rapidly declining market. Sugar supplies available to the free market in 1959 amounted to approximately 7,000,000 tons.

The next ordinary session of the Council will be held in June.

In Cuba the National Association of Sugar Mill Owners has appealed to the Cuban Minister of Labor for immediate intervention to solve labor problems in various mills which threaten to prevent the 5,800,000 long ton sugar production set for 1959.

The Cuban mill owners claim there is a slow-down at several of the largest mills where labor leaders instead of subordinating all labor demands to assure harvest of the sugar crop as requested by Prime Minister Fidel Castro, are daily presenting demands some of which are practically impossible to settle.

Reliable reports from the Cuban mill owners say that Dr. Castro has ordered them to contribute 100,000 tons of sugar to aid his agrarian reform policy. It is also reliably understood that the mill owners will also have to pay a tax of $1 a ton on production. The combined cost of the 100,000 ton donation and the $1 per ton tax will set the mill owners back approximately $15,000,000.

American owners of some of the Cuban sugar mills would like very much to transfer their investments to sugar properties in the beet and cane producing area of mainland United States.

FOR SALE

One Fairbanks-Morse double tank juice scale, complete with 1000-gallon tanks and two 10,000-pound type recording weigh beams and supporting steel frame. Scale suitable for weighing juice, molasses, or any similar liquid and can be inspected at Greenwood Factory.

TESTIMONY OF W. S. CHADWICK AT MARKETING ALLOTMENT HEARING--MARCH 10, 195

My name is W. S. Chadwick. I am associated with Southdown Sugars, Inc., a processor of sugar cane operating in the Mainland Cane Sugar Area. I appear at this meeting on behalf of the following Mainland Cane Sugar processors:

Albania Sugar Company
Alma Plantation, Ltd.
J. Aron & Co., Inc.
Billeaud Sugar Factory
Breaux Bridge Sugar Coop.
J. M. Burguieres Co., Ltd.
Wm. T. Burton Industries
Caire & Graugnard
Caldwell Sugar Coop., Inc.
Catherine Sugar Co., Inc.
Columbia Sugar Company
Cora-Texas Mfg. Co., Inc.
Dugas & LeBlanc, Ltd.
Duhe & Bourgeois Sugar Co.
Erath Sugar Co., Ltd.
Evan Hall Sugar Coop., Inc.
Evangeline Pepper & Food Prod.
Frisco Cane Co., Inc.
Glenwood Coop., Inc.
Helvetia Sugar Coop., Inc.
Iberia Sugar Coop., Inc.
Lafourche Sugar Company
Harry L. Laws & Co., Inc.
Levert-St. John, Inc.
Louisiana State Penitentiary
Lula Factory, Inc.
Meeker Sugar Coop., Inc.
Milliken & Farwell, Inc.
M. A. Patout & Son Ltd.
Poplar Grove Pltg. & Ref. Co.
St. James Sugar Coop., Inc.
St. Mary Sugar Coop., Inc.
South Coast Corp.
Southdown Sugars, Inc.
Sterling Sugars, Inc.
J. Supple's Sons Pltg. Co.
Valentine Sugars, Inc.
Vida Sugars, Inc.
A. Wilbert's Sons Lbr. & Sh.
Young's Industries, Inc.
Louisiana State University

The processors on whose behalf I make this appearance constitute 41 of the 44 Mainland Cane Sugar processors, including the Louisiana State University, and all of the 41 Mainland processors operating in the State of Louisiana.

Although representing these processors in presenting this testimony each of them reserves the right to place in the record of this hearing any statement of fact particularly applicable to such processor, and also the right to file brief subsequent to the close of this hearing.

I am Chairman of a special committee of Louisiana processors, presently consisting of 10 members, originally created prior to the public hearing held with respect to the allotment of the 1953 quota for the Mainland Cane Sugar Area. The recommendations I shall make today have been approved by the entire committee and by the 41 processors I have named.

In its deliberations concerning the allotment of the 1959 quota, our committee has kept in mind the three factors provided in Section 205(a) of the Sugar Act, and that our recommendations should result in a fair, efficient and equitable distribution of the quota. We have also considered any special condition brought to our attention which merits special treatment.

I shall first discuss the special conditions.

As in prior years, the experimental sugar factory of the Louisiana State University should be allotted 100 tons of quota, regardless of its history. The operations of this factory inure to the benefit of the entire industry, and the reasons for this special allotment are obvious.

Prior to the year 1959, National Sugar Refining Co. operated a sugar cane processing establishment at Reserve, Louisiana, and was an allottee under allotment orders previously issued. That company has abandoned its processing operations, as of the close of the 1958 processing season and marketing year, and will

ıot process sugar cane in the year 959.

In view of its abandonment of processing operations, National Sugar Refining Co. has signed a relinquishment of its allotment of the 959 quota, together with all rights ncident thereto. I now offer in evidence, in quadruplicate, the relinquishment signed by that company, lated as of this Tenth day of March, 959, and ask that it be accepted and nade a part of the record.

Four Mainland processors and allottees, Valentine Sugars, Inc., Frisco Cane Company, Inc., Helvetia Sugar Cooperative, Inc. and Southdown Sugars, Inc., have signed and delivered to our committee a stipulation, lated as of March 10, 1959, relating o the distribution of the allotment f National Sugar Refining Co. This tipulation first sets out the fact of abandonment and relinquishment by National Sugar Refining Co. The tipulation then states that from an nvestigation and survey made by hese four allottees, it appears these llottees will process in 1959 all of he sugar cane to be produced from arms which delivered sugar cane to he National Sugar Refining Co. in 958, and that this sugar cane to be o produced in 1959 will be processed n 1959 by these four allottees, in he following proportions:

Valentine Sugars, Inc.	58.15%
Frisco Cane Company, Inc.	28.93%
Helvetia Sugar Cooperative, Inc.	4.62%
Southdown Sugars, Inc.	8.30%

The four processor-allottees then equest, stipulate and agree that in llotting the 1959 quota for this area, he allotment which would have been stablished for National Sugar Refining Co., if its processing operations were not discontinued and its llotment not relinquished, be distributed and allotted to them in the ame proportions that they will process such sugar cane. The stipulation finally requests such additional action as may be required to effectuate this distribution and allocation of the allotment of National Sugar Refining Co.

I offer in evidence, in quadruplicate, the stipulation signed by the four processors, and ask that it be accepted and made a part of the record.

To the best of our committee's knowledge, the facts contained in the stipulation are true and correct. We believe this request can best be effected by attributing to each of these four processors in proportions indicated the 1958-crop processings and the total marketings and new crop marketings within quotas in each of the years 1954 through 1958 which are otherwise attributable to the National Sugar Refining Co. Thus, it is proposed that for each of these four processors the data which appear in exhibits 4, 5, 6, 7, 8, 9, and 10 be increased accordingly before using the data for individual processors in the allotment method adopted on the basis of this proceeding. We feel that the results of this proposal together with the adoption of the allotment formula which we intend to propose will result in a fair, efficient, and equitable distribution of the quota.

We call attention to the fact that on March 3, 1959, the processing factory of M. A. Patout & Son, Ltd., a Mainland processor, was damaged by fire. The management of that company has not had time to determine whether its factory can be repaired in sufficient time to process sugar cane from the 1959 crop. Until that question can be resolved, we recommend that any allotment order issued, the 1959 allotment of that company be fixed and determined. It is necessary that the interests of this processor be fully protected, and also that the sugar cane which that factory would normally process in 1959 be processed without additional hardship. If it should be determined at a later date that timely repair of this factory is impossible, provision can be then made, under existing regulations, for additional handling of the 1959 allotment of that company.

With respect to the formula or method to be employed in alloting the quota, exclusive of the 100 tons allotted to the Louisiana State University, we recommend that the 1959 quota be allotted under the same formula provided in the 1957 and 1958 allotment orders, substituting current comparable data, with the same weights given the three factors, respectively. Specifically the recommendation is:

(1) An allotment of 100 short tons, raw value, be established for the Louisiana State University.

(2) The remainder of the quota be allotted to all processors other than the Louisiana State University, measuring and weighting each of the three factors specified in section 205(a) of the Sugar Act, based on data in the record, supplemented by final data where not now available, as follows:

(a) The factor processings from proportionate shares should be measured by each processor's production of sugar from 1958-crop sugarcane, in short tons, raw value, exclusive of known quantities of sugar produced from sugarcane to which proportionate shares did not pertain, expressed as a percentage of the total of the measure for all processors, and weighted by 60 percent.

(b) The factor past marketings should be measured by each processor's average annual marketings within his allotment for the years 1954 through 1958, in short tons, raw value, expressed as a percentage of the total for all processors of the measure, and weighted by 20 percent.

(c) The factor ability to market should be measured by the sum of (1) each processor's January 1, 1959, effective inventory and (2) his share of the difference between 614,924 short tons, raw value (the Mainland Cane Sugar Area's quota in effect on March 10, 1959, minus 100 short tons raw value, allotted to the Louisiana State University), and total January 1, 1959, effective inventories of all processors. Each processor's share of such difference shall be determined by applying to the area total difference the percentage that his average 1954-58 new-crop marketings within the processor's allotment were of the area average. The sum of (1) and (2), above, in short tons, raw value, expressed as a percentage of the total of the measure of all processors should be weighted by 20 percent.

(d) The total of the percentages resulting from (a), (b) and (c) above, for each processor should be multiplied by the quantity in short tons, raw value, by which the quota exceeds the 100 tons allotted in Paragraph (1) above, to determine his allotment in short tons, raw value.

A table which demonstrates the proposed allotment method is now submitted to be marked as an exhibit. The allotments as shown in Column 11 of this table total 614,924 short tons, raw value, which is equal to the quota now in effect for the Mainland Cane Sugar Area less 100 tons which is the quantity we have proposed to be otherwise allotted to the Louisiana State University.

The only purpose for introducing this table is to demonstrate the proposed allotment method.

The data in this table do not reflect the proposal pertaining to the distribution of historical data for the National Sugar Refining Co. to Valentine Sugars, Inc., Frisco Cane Company, Inc., Helvetia Sugar Cooperative, Inc. and Southdown Sugars, Inc. I now offer in evidence the table and ask that it be accepted and made a part of the record.

We also make the following additional recommendations:

1. That there be included in the 1959 allotment order the provisions contained in the 1958 order relating to marketing limitations and exchanges of sugar between allottees.

2. Should it be necessary that the allotment of the quota be re-

ACREAGE RESTRICTIONS EASED FOR 1959

On March 4th the U. S. Department of Agriculture announced an easing of acreage restrictions for the 1959 sugar cane crop in the mainland cane sugar area.

Action taken by U.S.D.A. will permit the harvesting for sugar or seed of all 1959 crop acreage of sugar cane which is now growing. The official Determination follows:

Proportionate Shares for Farms, 1959 Crop

Pursuant to the provisions of the Sugar Act of 1948, as amended, paragraph (b) of § 855.6 of this chapter (23 F.R. 5419) is hereby amended to read as follows:

"(b) *Farm Proportionate Share.* The 1959-crop proportionate share for each farm shall be the number of acres of 1959-crop sugarcane thereon, provided that such sugarcane was planted prior to the date of issuance of this amendment."

Statement of Bases and Considerations

When the original determination was issued in July of 1958, it was estimated that the poduction of sugar from the 1958 crop of sugarcane in the Mainland Cane Sugar Area would be about 620,000 tons, and considering the then effective quota of 685,000 tons, that the effective inventory on January 1, 1959, would be about 160,000 tons. Since this inventory represented a reduction from the effective inventory of a year earlier, the determination established total 1959-crop proportionate shares 10 percent higher than the 1958 level.

Latest available estimates indicate that the production of sugar from the 1958 crop will approximate 575,000 tons. The 1958 quota for the Mainland Cane Sugar Area was established finally at 720,000 tons, with increases resulting principally from Puerto Rican and Hawaiian quota deficits which were caused by adverse weather conditions and a labor strike, respectively. As a result of quota increases and the lower-than-estimated production from the 1958 crop, the area was unable to market its quota fully and its effective inventory fell below desirable levels. Recent developments indicate that the 1959 quota for the area may be increased substantially over the present level because of a deficit in at least one other domestic area and that the production from the present 1959-crop proportionate share acreage may be less than the quota and carryover requirements.

To provide for quota requirements and a more normal carryover of sugar, this determination permits the harvesting for sugar of all 1959-crop acreage of sugarcane which is now growing, some of which, except for this action, would be plowed-out or devoted to other uses. In the Mainland Cane Sugar Area, plantings normally occur in the autumn. In most of the area, it would not be practicable to plant 1959-crop cane after the date of this action and possible late plantings would have no appreciable effect on the total production of 1959-crop sugar. However, certain growers might plant at a late date partly to establish acreage records. Therefore, to promote equity among growers, this action does not cover such late plantings.

(Continued on page 147)

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vised or amended by the Secretary for the purpose of (1) allotting any increase, or decrease, in the quota resulting from a change in United States sugar requirements or from the proration of a deficit in the quota of any area, (2) prorating any deficit in the allotment for any allottee, or (3) substituting final data for estimates of such data wherever estimates are used in the formulation of an allotment of the quota, the revised or amended allotments should be computed in the same manner as I have recommended for the original allocation and without further notice or hearing.

OFFICIAL PRICES, 1958-59 PRICING PERIOD

The Louisiana Sugar Exchange, Inc., New Orleans, Louisiana, quotes the following as the official prices of the following grades of sugar and molasses sold on this exchange during the weeks ending as indicated:

Week ending October 16, 1958
Raws 6.41, Blackstrap No Sale
Week ending October 23, 1958
Raws 6.43, Blackstrap 13:00
Week ending October 30, 1958
Raws 6.45, Blackstrap 13.00
Week ending November 6, 1958
Raws 6.43, Blackstrap 13.00
Week ending November 13, 1958
Raws 6.285, Blackstrap 12.54
Week ending November 20, 1958
Raws 6.25, Blackstrap 12.25
Week ending November 27, 1958
Raws 6.255, Blackstrap 12.25
Week ending December 4, 1958
Raws 6.32, Blackstrap 12.00
Week ending December 11, 1958
Raws 6.41, Blackstrap 12.00
Week ending December 18, 1958
Raws 6.42, Blackstrap 12.25
Week ending December 25, 1958
Raws 6.38, Blackstrap 12.875
Week ending January 1, 1959
Raws 6.41, Blackstrap 13.00
Week ending January 8, 1959
Raws 6.21, Blackstrap 13.125
Week ending January 15, 1959
Raws 6.08, Blackstrap 13.125
Week ending January 22, 1959
Raws 6.09, Blackstrap 12.825
Week ending January 29, 1959
Raws 6.03, Blackstrap 12.75
Week ending February 5, 1959
Raws 5.97, Blackstrap 12.50
Weew ending February 12, 1959
Raws 5.95, Blackstrap 12.25
Week ending February 19, 1959
Raws 5.94, Blackstrap 12.00
Week ending February 26, 1959
Raws 5.905, Blackstrap 12.00

The season's average price of raw sugar is 6.2312 cents per pound.

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The season's average price of blackstrap molasses is 12.5653 cents per gallon and the molasses bonus is 2.650 cents per *actual net ton* of sugarcane.

The prices of standard sugarcane for mills located in the three freight areas are as follows:

(a) 6.582 dollars per standard ton for mills except those located in areas defined in (b) and (c) below.

(b) 6.502 dollars per standard ton for mills located north of Bayou Goula between the Atchafalaya and Mississippi Rivers and southeast of New Iberia west to the Atchafalaya River.

(c) 6.449 dollars per standard ton for mills located north and west of New Iberia west of the Atchafalaya River.

———o———

ACREAGE

(Continued from page 145)

Accordingly, I hereby find and conclude that the aforestated amendment will effectuate the applicable provisions of the Sugar Act of 1948, as amended.

(Sec. 403, 61 Stat. 932; 7 U.S.C. 1153. Interprets or applies Secs. 301, 302, 61 Stat. 929, 930, as amended; 7 U.S.C. 1131, 1132.)

Issued this 4th day of March 1959.

/s/ True D. Morse,
Acting Secretary.

———o———

IN THE FIELD

(Continued from page 140)

studies conducted on deep tillage will certainly be of interest to the industry. Data to show how size of farm and yield per acre affect profits is very revealing.

Because fertilizing time is near, growers should be very interested in this timely subject. Every cane grower should make a special effort to attend this meeting. Come out to learn, and at the same time, show the scientists that their work is appreciated.

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in the interests of the Domestic Sugar Cane Industry

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Lloyd L. Lauden, Agronomist and Field Representative

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UP FRONT WITH THE LEAGUE

by A. W. Dykers

Graugnard Heads Exchange

The Annual Meeting of the Louisiana Sugar Exchange was held in New Orleans on March 25th and F. A. Graugnard, Jr., who is President and Manager of the St. James Sugar Cooperative, St. James, La., was elected the new President of the Exchange. Other officers elected were Louis P. LeBourgeois, New Orleans, 1st Vice-President; Irving Legendre, Thibodaux, 2nd Vice-President; Sedwick Howard, New Orleans, 3rd Vice-President; Samuel H. Livaudais, Jr., New Orleans, Secretary and Charles A. Levy, New Orleans, Treasurer.

The writer is happy to report that he was again selected to be the Executive Secretary of the Exchange.

The Exchange elects thirteen members of its twenty-six member Board of Directors each year. We list below the names of the gentlemen who will serve on the Board of Directors this year.

Thomas H. Allen, Franklin, La.; T. M. Barker, Lockport; P. L. Billeaud, Broussard; E. A. Burguieres, New Orleans; W. S. Chadwick, New Orleans; C. S. Churchill, Donaldsonville; F. Evans Farwell, New Orleans; Robert Fraser, New Orleans; Edmond J. Garland, New Orleans; E. D. Gelzer, New Orleans; Charles F. Gibbins, New Orleans; R. M. Cockburn, New Orleans; F. A. Graugnard, Jr., St. James; Sedgwick Howard, New Orleans; Louis P. LeBourgeois, New Orleans; Irving Legendre, Thibodaux; John B. Levert, New Orleans; Chas. A. Levy, New Orleans; Samuel H. Livaudais, Jr., New Orleans; J. J. Munson, Houma; Edgar Murray, New Orleans; E. A. Rainold, Jr., New Orleans; Harold F. Saufley, New York; Charles C. Savoie, Belle Rose; G. M. Talmage, New Orleans, and Bronier Thibaut, Napoleonville, La.

Farwell Reports

Beginning on page 155 of this issue we are printing the report that Mr. F. Evans Farwell presented to the Annual Meeting of the Exchange. In it you will note that Mr. Farwell has expressed alarm at the rapid attrition of small cane farmers under the low price policy of the Administrators of the Sugar Act. He points out that during the past ten years the number of cane farms in Louisiana has dropped from 5,689 to 3,343. "Under the 'squeeze out' policy now being employed by the Sugar Division", Mr. Farwell stated, "more small and medium sized cane farming operations are sure to fall by the wayside". The Sugar Act, he continued, was enacted to keep this sort of thing from happening. "It", he said, "has all the necessary machinery to accomplish its purpose. The trouble is in its administration."

Enterprise to Rebuild

It is a great pleasure to be able to report that the Enterprise Mill at Patoutville that was damaged by fire on March 3rd will be repaired in time for the 1959-60 Louisiana grinding campaign. This good news is taken from the March 26 issue of the Franklin Banner-Tribune whose very able Editor and Publisher, Robert J. Angers, Jr., wrote regarding the decision, "This action should buoy the morale of the thousands of people who rely on sugar cane for a liveli-

(Continued on page 157)

IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

A survey recently completed by the American Sugar Cane League showed that Louisiana sugar cane growers now have about 31,000 acres more cane for sugar and seed than was harvested in 1958. The survey also indicated that cane growers plan to make an additional cane acreage increase of about 12,000 acres for the year 1960 if acreage restrictions are not imposed for that crop.

Louisiana cane growers harvested 242,000 acres of cane for sugar and seed in 1958. It is now estimated that there will be about 273,000 acres in 1959 and 285,000 acres for harvest for sugar and seed in 1960.

Government acreage controls have caused Louisiana's cane acreage to be below the normal 300,000 acres since 1953. If government acreage controls are not imposed it will probably be several years before Louisiana cane acreage will again reach a normal of 300,000 acres.

Careful planning is required when expanding cane acreage. It is very difficult to make a large expansion in one year without keeping a considerable amount of old stubble. Growers have learned through experience that some old stubble can be maintained economically where grass is not a problem, but to indiscriminately keep all old stubble only to increase acreage is not good business. Growers should keep a good manageable balance between plant and stubble cane for rotation purposes. It is also important to mention that planting time is a pea labor requirement period, and this i itself makes it very difficult to e: pand rapidly in one year.

The League has recommended t the Government that there be r acreage restrictions in 1960. Furtl er, the League has also recommen that the Government render this d cision at the earliest possible date an suspend the public hearing tentativ ly set for April 30. The League mad this recommendation after carefull considering all statistical data avai able including the results of the su vey recently conducted.

Growers wish to know now if acre age restrictions will not be imposed It is now time to prepare land fo summer legumes in preparation fo planting cane. Additional land mus be put into the fallow-plow prograr to control Johnson grass. Grower must clear ditches in land not use for cane during the acreage restric tion period. Cut-crowning will b done in a considerable amount of th land that will be brought back t cane. This job not only requires con siderable time but is also costly Therefore growers will want to know positively that acreage restriction will not be imposed before going t the expense and time required to d this job. This job should have already begun; every day of delay becomes one day late.

It is hoped that the Government will see our problem and render now a favorable decision.

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Ernest W. Greene President of The Sugar Association, Inc., is the first winner of the Dyer Memorial Award for outstanding service to the sugar industry during the current year. He was selected as "Sugar Man of the Year" by a committee of judges composed of Wallace C. Kemper, President of Southdown Sugars, Inc., William F. Oliver, President of the American Sugar Refining Company and Robert H. Shields, President of the U. S. Beet Sugar Association.

The Dyer Memorial award was inaugurated by B. W. Dyer and Company, sugar economists and brokers of New York, in memory of the late B. W. Dyer, founder of the company. The award was presented at a luncheon meeting of The Sugar Club of New York, on March 26, 1959.

Mr. Greene has been President of The Sugar Association, Inc., since 1952. Initially that corporation was The Sugar Research Foundation which Mr. Greene served as President in 1946, 1958 and 1959. When the domestic sugar industry expanded its activities to include national advertising and public relations, Sugar Association Inc., was organized to formulate policy and financial affairs for the industry. Sugar Research Foundation continued to sponsor matters pertaining to research, and Sugar Information, Inc., assumed responsibility for advertising and public education. In addition to his duties as President of the parent association, Mr. Greene is also Chairman of the Board of Sugar Research Foundation and Sugar Information, Inc.

As Chairman of a Task Group on Sugar, Mr. Greene made an outstanding contribution in the form of a very detailed and comprehensive report to the President's Bipartisan Commission on Increased Industrial Use of Agricultural Products.

For more than twenty years, Mr. Greene was Washington representative of the Hawaiian Sugar Planters' Association. He is an officer and Member of the Board of National Savings and Trust Company, one of Washington's leading banking institutions. His selection as "Sugar Man of the Year" is a well deserved honor.

The progress of pending legislation to continue the Sugar Act, which was slowed down by the revolution in Cuba is expected to accelerate shortly after Congress returns from its Easter recess, April 7, 1959. Several interested government departments have reported favorably on S.187, introduced by Senator Allen J. Ellender, which has been referred to the Senate Committee on Finance. Hearings on sugar legislation in the House of Representatives will probably not be held until the conclusion of the visit to the United States by Prime Minister Fidel Castro of Cuba. Dr. Castro is scheduled to address a meeting of the Association of Newspaper Editors, April 17, 1959.

Late reports from Manila indicate that sugar milling in the Philippines is continuing on a very satisfactory basis. The Sugar Quota Administration of the Philippine Republic has announced that harvesting and milling of the current crop are progressing according to schedule.

SUGARCANE BORER INFESTATION AND LOSS IN LOUISIAN

By Leon J. Charpentier, Ralph Mathes, and W. J. McCormick, Entomolgy Research Division, Agr. Res. Serv., U.S.D.A., and W. H. Long and E. J. Concienne, Louisiana Agricultural Experiment Station

The sugarcane borer infestation in Louisiana averaged 19 per cent joints bored in 1958 as compared with 16 percent during the 1935-57 period. The crop loss was estimated to be 14 per cent. Since the sugarcane crop had an estimated value of $45 million, the sugarcane borer caused a loss of approximately $6-1/3 million to the 1958 crop.

Cooperative surveys to determine the amount of damage caused by the sugarcane borer are conducted annually by entomologists of the USDA Sugar Experiment Station and the Louisiana Agricultural Experiment Station. These surveys aid in evaluation of the various factors responsible for year-to-year fluctuations in borer populations.

From 1935 through 1957 examinations were made at harvest on the same ten plantations. Six fields were surveyed on each plantation. An attempt was always made to select fields that would be representativ of the varieties grown and soil type on each plantation. One hundre stalks were examined in each fiel to determine the percentage of joint bored. The infestation averaged 1 percent of the joints bored for th 23-year period.

In the 1958 survey the examina tions were made at the mill stoc piles. Seventeen mills were selecte at random to be surveyed. In orde to obtain representative data on yea of crop, varieties, and from as man growers as possible, each mill wa visited four times during the seaso —the last week of October, the secon and fourth weeks of November, an the second week of December. O each visit ten 10-stalk samples se lected without bias from differen places on the yard were examined.

The percentages of joints bore at each mill are presented in the ac companying table.

Sugarcane borer injury in Louisiana during harvest season of 1958

Mill	Parish	Percent of joints bored
Columbia Sugars	St. Mary	35
Billeaud	Lafayette	32
San Francisco	St. John	25
St. James Coop.	St. James	23
Cinclare	W. Baton Rouge	21*
Duhe & Bourgeois	Iberia	21
Supreme	Assumption	21
Poplar Grove	W. Baton Rouge	18
Catherine	Iberville	17
Helvetia	St. James	17
Raceland	Lafourche	17
Alma	Point Coupee	16*
Evangeline	St. Martin	15
Sterling Sugars	St. Mary	14
Erath Sugar Company	Vermilion	12
Southdown	Terrebonne	12
Little Texas	Assumption	11
	Average	19

* Average of 3 examinations; all others 4.

ADDRESS OF F. EVANS FARWELL TO THE ANNUAL MEETING OF THE LOUISIANA SUGAR EXCHANGE, INC.

Members of the Louisiana Sugar Exchange and our distinguished guests.

It is a privilege to appear before you on this, the last day of our 1958-59 fiscal year, which, incidentally, is also the last day of my second term as President of the Louisiana Sugar Exchange.

For the most part, the year since we last met has been a considerable improvement over the one immediately preceding it. Unlike 1957, the elements were good to most of us during 1958 and the cane harvesting season was one of the best on record. Despite the fact that we had at least two freezes during the month of December, I do not believe that a single stalk of cane was a cold weather casualty during the 1958 harvesting season.

The forty-eight sugar mills that participated in the 1958 grinding campaign ground 4,868,908 net tons of cane for sugar and produced 442,460 tons of sugar, raw value. This was a record production of 182 pounds of sugar per ton of cane.

Compare this with the 1957 crop production of 160 pounds of sugar per ton from a net grinding of 4,975,115 tons of cane and it becomes evident that 1958 was a good crop year for most of us in the Louisiana sugar business.

Please note that I have said, "most of us" had a better than average year in 1958. I know, of course, that there were farmers in the western portion of the sugar belt who did not share this good fortune. Heavy borer damage occurred in that area where fields were dusted to eradicate the fire ant. Other farmers, mostly in the same section, suffered from low tonnage production because stands of cane were affected by adverse weather during an immediately following planting operations in the fall of 1957. Although these experiences were local in character and had no great effect on the overall 1958 production figures, they were, nevertheless, very real to the unfortunate victims, and we certainly take cognizance of their troubles.

Pricewise the year was above average for raw sugar and only fair for blackstrap molasses. The 6.2312 season's average price of raw sugar was about a tenth of a cent a pound better than the price for the 1957 season. The 12.5653 cents a gallon blackstrap molasses price was a little less than the 1957 average of 12.6885.

The 1958 price of sugar was only two hundreds of a cent a pound above the 6.206 season's average price of eleven years ago. This a very discouraging thing when we realize that the cost of living has gone up 31% since that date. We estimate that, according to the price formula in the Sugar Act, raw sugar today should be selling at approximately 6.90 cents a pound. That would be the price of sugar if the Act were administered according to the intent of Congress and the wording of the law itself. Instead it is selling at 5.80 cents a pound.

I wonder how many of us realize that in 1947 there were 5,689 farms growing sugarcane in Louisiana and that in 1957 the number of sugarcane farms had dwindled to 3,343. These figures indicate that the low price policy followed by the administrators of the sugar act during the past ten years has caused 2,346 cane farmers to go out of business. It is a very alarming situation.

During the same 1947-57 period the cane tonnage and sugar production in Louisiana, except for conditions beyond control, have remained about the same. This indicates that it is the policy of the administrators of the Sugar Act to "squeeze out" the

(Continued on next page)

so-called "uneconomical" small operator.

Under the "squeeze out" policy now being followed by the Sugar Division more and more small and medium sized cane farming operations are sure to fall by the wayside. This, I submit, is the "law of the jungle", the "survival of the fittest" and it is not in keeping with the stipulations in the Sugar Act that the Domestic Sugar Industry be adequately maintained. To those of us who think our position secure, let's not forget that there will always be a "bigger fish" in the pond ready to gobble us up. The Sugar Act was enacted to keep this sort of thing from happening. It has all the necessary machinery to accomplish its purpose. It is a good law. The trouble is in its administration.

Getting back to the season under review, the first weekly price issued by the Raw Sugar Committee of the Exchange was $6.41 for the week ending October 16, 1958. The first blackstrap price was 13 cents a gallon. Due to the Cuban Revolution, the price of raws was still 6.41 for the week ending January 1, 1959 despite some frantic manuvering by the Sugar Branch. On New Years Eve, however, the Batista Government in Cuba fell and since that time the market has deteriorated rapidly. The quotation issued by our Raw Sugar Committee for the last week of the twenty week pricing period was $5.90½ a hundred pounds. The Blackstrap quotation for the last week of the season was 12 cents a gallon, f.o.b. Plantation.

Right here I want to again express my appreciation, and I am sure that of the entire Louisiana Sugar Industry, of the good work done by the members of both our Raw Sugar and Blackstrap Molasses Committees during the season just completed. These Committeemen were called upon to promulgate quotations more tha ninety-times during the 1958-59 pri ing period and the fact that the findings were accepted by the Go ernment without question is indic tive of their good work.

The Raw Sugar Committee wa composed of Sedgwick Howar Chairman, working with Robert M Cockburn, James Graugnard, Loui LeBourgeois, John B. Levert, Cha A. Levy, and Earl B. Wilson.

The Blackstrap Molasses Quotatio Committee was headed by Bascor Doyle, Chairman, with C. F. Gibbin John Manard, S. J. Menard, and H. C Vaccaro, members.

Both Chairmen advise me that th Pricing Period progressed throug its twenty weeks without serious dif ficulty. This, I believe, again demon strates the value of our flexible rule under which both Committees hav operated during the past two years

In closing I wish to thank each an every one of you for your cooperatio during the two years that I have bee your President. It has been an hono and a pleasure to head this organiza tion and I will, of course, continue t do all that I can to sponsor the Ex change and to promote the welfar of the Louisiana Sugar Industry.

Again, thank you very much.

"Sugar Factory Insurance Specialists"

GILLIS, HULSE and COLCOCK, Inc.

839 Union St. New Orleans, La.

Telephone JA 2-1225

SUGAR MARKET STATISTICS THROUGH MAR. 25, 1959

	Today	1 Month Ago	1 Year Ago
QUOTA RAWS DELIVERED NEW YORK	5.80	5.95	6.15
QUOTA RAWS DELIVERED NEW ORLEANS	5.76	5.90	6.12
RESIDUAL SPOT RAWS (In Cuba)	3.01	3.10	3.47

SUGAR FUTURES No. 6
(Closing Bid Prices)

	May	July	Sept.	Nov.
Today	5.39	5.60	5.66	5.68
1 Month Ago	5.48	5.63	5.68	5.70
1 Year Ago	5.70	5.76	5.80	5.76

OFFSHORE RECEIPTS AT NEW ORLEANS
(Long Tons, 2,240 lbs.)

	Feb. 25 Mch. 25 1959	Feb. 25 Mch. 25 1958	Jan. 1 Mch. 25 1959	Jan. 1 Mch. 25 1958
American	32,842	40,361	81,099	97,460
National (Godchaux)	24,123	9,326	33,909	37,395
Colonial	16,933	19,786	20,163	41,662
Henderson	7,799	8,488	25,905	22,504
Southdown	8,753	5,629	17,678	5,629
South Coast	6,452	3,017	12,962	10,770
Supreme	15,248	11,395	23,156	18,322
Totals	112,150	98,002	214,872	233,742

UP FRONT

(Continued from page 151)

nood and should put to rest forever- nore any doubts anyone may have bout the future of the industry. Sug- ir cane has been the predominant gricultural crop in this area for over 50 years and from all indications it vill continue to hold that position or an indefinite period of time."

Agribusiness

Farming is a business and to meet he demand, Louisiana State Univer- ity is offering a new course which hey call "Agribusiness'. Agribusi- ness is a four year course in Agri- cultural Business that is administ- ered by the Department of Agricul- tural Economics in cooperation with other departments in the College of Agriculture and the College of Com- nerce. Contact Dr. M. D. Woodin, Head of the Department of Agricul- tural Economics, at L.S.U. for more particulars.

Modern agribusinesses each year offer job opportunities for several housand well-trained young men and women. College graduates in Agri- business are needed to manage com- mercial farms and ranches and to manage or work in the hundreds of businesses serving agriculture. Spe- cific job opportunities include:

Farms and ranches—home farm or professional management.

Farm supply—machinery, feed, seed, fertilizer, insecticide busi- ness.

Processing—seed cleaning, dry- ing, ginning, milling, meat pack- ing, canning and freezing plant.

Warehousing and storage—dry storage, elevators, cold storage and freezer-locker plant.

Marketing—country dealer, live- stock auction, shipper, broker, com- mission agent, order buyer, sales representative for marketing firm.

Transportation—trucking, rail- road agricultural representative.

Finance—agricultural man in commercial bank, Production Cred- it Association, Federal Land Bank, Cooperative Bank, credit union, in- surance company.

Public relations — commercial company.

Service—electric company, rural

(Continued on next page)

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Technologists to Meet

Dr. Arthur G. Keller, President c the American Society of Sugar Can Technologists has announced that th Summer Meeting of the Society wi be held in the American Legion Ha in Thibodaux on June 4th. Circl this date on your calendar.

Molasses Imports

U. S. imports of molasses fror foreign countries in 1958 totale nearly 336 million gallons, about 5 percent of the total U. S. supply ac cording to the Annual Market Sum mary of the U.S.D.A. Imports wer 45 percent larger than the previou year but 18 percent below the recor 411 million gallons imported in 1953 Cuba, which furnished about 57 per cent of the molasses imported int this country, shipped nearly 190 mil lion gallons to the United States i 1958. This was about 62 percen above the relatively small import from Cuba in 1957. Imports fron Cuba included 18 million gallons o invert molasses in 1958 compare to none the previous year. Import from Mexico—the second largest for eign source of blackstrap molasse for the United States—amounted t more than 46 million gallons in 1958 16 percent more than the 40 millio imported in 1957. Dominican Repub lic shipments increased about 3 mil lion gallons and totaled slightly unde 25 million. Imports from other for eign countries amounted to nearly 7 million gallons in 1958—43 percen more than 1957 and the second larg est in 18 years of record. Some of the larger imports came from Jamaica Netherlands, France, and Egypt.

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IT'S THE END for Sugar Cane Borer!

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The days when sugar cane borer strikes and steals a lion's share of your hard-earned profits are over. You can fight back with endrin insecticide . . . it's the end for sugar cane borer.

Endrin has been thoroughly tested and approved for control of sugar cane borer. For best results, apply endrin granules by air.

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in the interests of the Domestic Sugar Cane Industry

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Lloyd L. Lauden, Agronomist and Field Representative

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We stand for the encouragement of Home Industries as against Foreign Competition

UP FRONT WITH THE LEAGUE

by A. W. Dykers

Very Depressing

For the past few days the chief ticker watcher of the Exchange has been ill and it has been my lot to keep tab on this truly remarkable black box we have here in the office that is known, strangely enough, as "The Ticker". This machine begins early in the morning to print the story of the New York sugar market (coffee too) on a ribbon of tape three-quarters of an inch wide and it sends out quotations in a never ending stream until mid-afternoon.

It is the job of the "ticker watcher" to decipher the code and record the quotations that come from the floor of the New York Coffee and Sugar Exchange so that the sugar people in Louisiana will know at what price the sugar people in New York, Cuba, London, and anywhere, value their sugar. To the uninitiated this task probably sounds like an excellent way to pass the time of day,—just sit, and watch, and record, and pretty soon the folks in New York are through trading, the market closes, the black box stops ticking, a blessed silence settles over the office and the ticker-watching is finished. The trouble is that for days, and weeks, even months this black box has been spewing out nothing but bad news. Each succeeding quotation has been worse than the one before. Watching it is very depressing.

Since the beginning of the year, when the Cuban revolution ended, the price of sugar for the so-called "world" market has dropped from 3.40 to 2.83 cents a pound and the price of quota sugar in New York has skidded from 6.50 to 5.75. Each day the free wheeling Dr. Castro, who must be the most talkative revolutionary in history, gives the market fits with his amazing predictions of things to come. Up to this writing, the Cuban government had not signed the International Sugar Agreement and an article in the April 6th issue of "The Times of Havana" said "Plantation-born Castro proposed lifting official lids off production and boosting it to 12,000,000 long tons—more than double the objective set by the rebel government for this year's harvest". This, to put it mildly, is quite a pile of sugar for a world that has enough already. The following two paragraphs are from the April 10th Weekly Sugar Letter of Merrill Lynch, Pierce, Fenner and Smith.

"Will Cuba sell aggressively in order to drive out competitors? The difficulty is obvious. There are not many markets in which competitors will allow themselves to be undersold. In few places, least of all the U. S., is there any likelihood of an 'open door policy' to Cuban sugar. It might be, however, that some countries could be prevailed upon to carry more sugar, or that trade agreements involving sugar could be worked out. In countries like Japan which have recently tended to reduce buying from Cuba, perhaps more trade could eventually be worked out on a near-barter basis. Here it is not price but problems of trade balance which restrict Cuban sales potential."

"The heart of weakness in the world market has been and remains the concentrated surplus in Cuba. As

(Continued on page 169)

IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

During the last three or four years cane growers have become more interested in applying phosphate fertilizer to sugar cane soils. This is a good trend. There is a definite need for phosphate on many soils in the cane belt, particularly on the lighter texture soils. Yield responses to the addition of phosphate are more likely to occur now than in the past because of the greater amounts of nitrogen now being used.

There are many types of phosphate fertilizers on the market today; some in solid form and some in liquid form. Growers should consider carefully many things before buying either a particular solid phosphate fertilizer or a particular liquid phosphate fertilizer.

One of the most important things to consider when buying a phosphate fertilizer is the availability of the phosphate ($P_2 0_5$) plant food in the fertilizer to the plants. In some fertilizers the available phosphate ($P_2 0_5$) to plants is high, in others it is low.

Before buying any new fertilizer investigate the material carefully. There are many ways to investigate. Read the manufacturer's literature carefully. Be sure to *read* the literature, not *just listen* to what is said about the availability of plant food.

Be leary of testimonial letters. Remember that some fields will normally yield more per acre than adjoining fields some years even though all fields receive similar treatment. Assume for the sake of proving a point that one tea cup of distilled water was added to that one field that out-

Phosphate Fertilizer

yielded the two adjoining fields. Somewhere, but not in Louisiana, someone would probably write a testimonial letter stating that one cup of distilled water increased yields.

To be on the safe side, check with the County Agent. Telephones are handy. He has the latest information. Call the scientists at L. S. U. and at the U. S. D. A. To make it easy this column lists below the scientists' names and telephone numbers. The price of a telephone call to Baton Rouge or to Houma is not at all expensive in relation to the cost of fertilizer.

Dr. M. B. Sturgis, Head Dept. of Agronomy, L. S. U., Phone—DIckens 8-6511, Ext. 2110

Dr. Walter J. Peevy, Agronomist, L. S. U., Phone—DIckens 8-6511, Ext. 2203

Dr. Laron Golden, Agronomist, L. S. U., Phone—DIckens 8-6511, Ext. 2203

Mr. Lester Davidson, Agronomist & Cane Fertilizer Specialist, U. S. D. A.
Houma Station, Phone — UPtown 2-6326

Call on these scientists, they will be happy to answer your questions. Get the answers and buy wisely.

The crop is certainly looking good. Stands are still filling in all areas. In general, even third year stubble is making a satisfactory stand.

Good work is the byword so far this year. Growers have done an extra good job of preparing the soil for fertilizing this year.

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Woe, in large quantity, came to the Cuban Sugar industry along with the revolution. Although the amount of sugar cane actually destroyed and the damage to mills was relatively small, transportation troubles caused by railway and highway bridge destruction and the closing of ports from which most of the island's sugar normally is shipped, prevented large quantities of sugar from being sold.

Since transportation has been restored, Cuban sugar producers who need funds have rushed their sugar to market and, as is always the case when "distressed" sugar is offered, the market broke and the price has declined to the lowest level in many years.

Now that the fighting is over and the new government inaugurated there is increasing concern over the future of Cuba's great sugar industry.

Public statements made by Dr. Fidel Castro, who heads Cuba's new government, have certainly not been reassuring. One of his first statements was to the effect that his government intended to divert thousands of acres presently devoted to sugar cane to other crops which would make Cuba more agriculturally self-sufficient.

His agrarian reform program which included dividing up many of the large tracts of land, which are largely utilized in sugar production, in order to give many of his followers tracts of land for their occupation and utilization, caused additional worry to the sugar producing owners of those lands. In addition, Dr. Castro announced that the Cuban industry would be required to donate 100,000 tons of sugar and the proceeds of the sale of such "donation" would go to help finance his agrarian program.

Dr. Castro apparently is not content with causing an epidemic of gastric ulcers among Cuban sugar cane producers, he has now turned his attention to the U. S. Beet Sugar industry. In his address to the National Assembly of cane growers in Cuba on April 5th, he is reported to have said that the American housewife should get her sugar from Cuba at 3¢ a pound, or less. Cuba can sell the American family 7, 8, 9 or 10 million tons "cheaper than the Beet Producers' sugar". We feel sure that our good friends in the beet sugar industry could not meet such competition very long.

So far Dr. Castro has not explained to the heads of the sugar industry in his country how he intends to "revolutionize" the cost of producing sugar in Cuba to the point where it can be sold profitably in the United States for as little as 3¢ a pound.

Machinization of field and harvesting operations is not permitted in Cuba and the wages of sugar workers in both field and factory have been materially increased since Dr. Castro's government came into power. Other costs such as "taxes" also have increased. While no authentic information on the cost of producing sugar in Cuba is available to the public, reliable information from various owners and operators of mills there

(Continued on page 170)

RECOMMENDATIONS FOR THE CONTROL OF MOSAIC DISEASE IN SUGARCANE IN LOUISIANA FOR 195

Prepared jointly by Pathologists of the Louisiana State University Agricultural Experiment Station, Baton Rouge, Louisiana, and the United States Department of Agriculture Sugarcane Field Station, Houma, Louisiana.

Mosaic, a virus disease of sugarcane, is one of the most widely distributed and best known virus disease of sugarcane. In Louisiana, the disease for many years was one of considerable importance; but with the production of highly resistant varieties, mosaic gradually receded to a position of progressively decreasing percentage of the commercial acreage.

Now, after several years of concentrated efforts toward the control of other diseases, we must again focus our attention on mosaic. There are two reasons why this situation has developed. First, a new strain of mosaic has been identified in commercial plantings of sugarcane. Secondly, two varieties released in recent years, N.Co. 310 and C.P. 52-68, are susceptible to mosaic.

The mosaic situation at the present time is not an alarming one. However, mosaic may spread. A fairly heavy mosaic infestation has been found along Bayou-Lafourche and the Mississippi River with N.Co. 310 and C.P. 44-101 showing a higher degree of infestation.

With increases in planting of N.Co. 310 and C.P. 52-68 and since C.P. 44-101 constitutes at least 50 per cent of the commercially planted acreage it is most important that growers direct their efforts toward a control program with special emphasis on preventing its spread.

There are at least three things that have an important influence on the spread of mosaic in the field: (1) The degree of resistance or susceptibility of the sugarcane varieties being grown; (2) The numbers and activity of insect vectors present and; (3) The strains of the mosaic virus present.

The presence of mosaic in field plantings reduces yields. The amount of reduction depending on variety and degree of infestation. In yiel trials conducted using 100 percen mosaic infested seed cane; reduction in the various varieties were as fol lows: C.P. 44-101 showed a reduc tion in yield of 17-38 per cent; C.P 52-68 showed a reduction in yield o 20-40 per cent and N.Co. 310 showe a reduction in yield of 6-20 per cent Mosaic may also reduce the rate o germination from 0-20 per cent.

Recommendations for the contro of mosaic are:

1. Learn to identify mosaic by surveying the fields in early spring usually April or May. This shoulc be done as soon as stands are wel established and the leaves show no cold injury.
2. Decide where to get seed for planting. Pick fields where there is no mosaic if possible.
3. If mosaic is found, but not more than 2 per cent of the plants in plant cane show symptoms of mosaic, rogue (dig) out the entire diseased stalk (seed piece). Repeat the inspection and roguing in such seed plots through May and June at 2 or 3 week intervals. Roguing of stubble cane is usually not economically feasible except for small acreages of valuable seed cane, such as C.P. 52-68.
4. Cane to be used for seed purposes should be free of mosaic.
5. Where certain properties are highly infested, obtain seed cane from sources free of mosaic. Plow out diseased stubble crops as soon as possible, thereby eliminating the source of mosaic which can infest the fields.

By planting disease free seed and eliminating sources of infestation mosaic can be satisfactorily controlled.

RECOMMENDATIONS FOR CONTROLLING THE SUGARCANE BORER AND OTHER PESTS IN LOUISIANA-1959

By Ralph Mathes, S. D. Hensley, and Leon J. Charpentier, Entomology Research Division, Agr. Res. Serv., U.S.D.A., and W. H. Long, E. J. Concienne, and L. D. Newsom, Louisiana Agricultural Experiment Station

The sugarcane borer, *Diatraea saccharalis* (F.), is the most important insect pest attacking sugarcane in Louisiana. The following recommendations are made for its control:

Chemical Control

Insecticides should be applied when the borer infestation and potential value of the crop are sufficient to insure a reasonable profit from treatment. Chemical control of *first generation borers* is not recommended under the prevailing conditions of a heavy and widespread infestation.

Insecticides to use—Endrin is recommended for sugarcane borer control. A granular formation containing two percent endrin on 30-60 mesh, RVM-AA attapulgite should be used at the rate of 12 pounds per acre per application.

Endrin granules should be applied at 14-day intervals. Four applications should be made, provided the last application can be made at least 30 days before harvest.

Granules may be applied by airplane at any time during the day provided wind conditions are relatively calm. The swath width should never be wider than the wingspread of the airplane. Marking of swaths by flagging is essential. The airplane should be flown at a height that will insure uniform coverage.

Care should be taken to prevent contamination of streams and ponds since endrin is highly toxic to fish.

Where bagasse or field trimmings will be used for livestock feed or where livestock will be pastured in cane fields for weed control, ryania dust should be used instead of endrin.

When to start—The first insecticide application should be made only after joints have begun to form and when at least two percent of the plants are infested with young larvae which have not yet bored into the stalk. This condition will usually prevail between June 10 and 30 in the southern part of the sugar belt, and between June 15 and July 5 in the northern part. Fields should be checked at weekly intervals after the first week of June to insure proper timing of the first application.

Fields should be checked in the following manner. Examine at least six samples in each field. These samples should be approximately the same distance apart and taken along a diagonal across the field. Each sample should consist of 50 randomly selected stalks, one stalk selected (without looking) from each of 50 locations one step apart along a single row of cane. Examine all 50 stalks for any external signs of borer feeding. Carefully dissect only those stalks which have recent feeding signs to determine whether or not young borers are present. The first insecticide application should be made when two percent of the plants (i.e. an average of one stalk per sample) are found with young larvae which have not yet bored into the stalk.

Biological Control

Considerable time and money have been spent to investigate the possibility of biological control of the sugarcane borer. There is no convincing evidence to show that a definite profit in dollars and cents will result from the release of parasites. It is possible that *Trichogramma* parasites may aid in suppressing the borer population late in the season, but high parasite populations also

(Continued on next page)

occur in fields where no parasite releases are made.

Cultural Practices

Cultural practices are normal farming operations which can be used to help reduce insect damage. They are helpful but not sufficient to control the sugarcane borer. It is common sense to employ the following measures when and where it is practical to do so:

1. Plant borer-free cane.
2. Break old fields in the fall or early spring.
3. Harvest heavily-infested cane as soon as possible.
4. Cut cane close to the ground during harvest.
5. Do a thorough job of burning cane trash.
6. Scrap thoroughly for field clean-up.
7. Shave heavily infested summer or fall-planted cane and destroy plants by burning and wrapping during the winter.
8. Chopping and wrapping of middles may destroy many of the borers overwintering in cane trash.

Resistant Varieties

Some varieties of sugarcane have demonstrated an ability to withstand or escape injury better than others. However, it is doubtful if any of our present varieties could escape appreciable injury for long under conditions of high borer pressure. The use of relatively resistant varieties where they are adapted or otherwise desirable may tend to alleviate the borer problem and sometimes decrease the total acreage that will require insecticide treatment.

The following varieties are grouped according to their relative susceptibility to borer damage.

Variety

Moderately resistant
N.Co. 310

Average to susceptible
CP's 43-47, 36-105, 44-155, 4
103, 47-193, 36-13, 29-116 a
44-101

Borers on Corn

Corn should be planted as early possible to avoid injury from t sugarcane borer since late plant corn may be severely injured.

Corn should be planted as far possible from the sugarcane sin borers often move from cane corn and back to cane.

Soil Pests

Soil treatment with chlordane recommended to control such pes as springtails, bristletails, centipede millipedes and earwigs in heavy soi and wireworms in sandy soils of t cane-growing area of Louisiana. Sc treatment should be made only whe these pests are known to be a pro lem.

Apply chlordane at planting tin on the cane seed pieces in the ope furrow shortly before covering wit soil. Apply 2 pounds of technic material per acre either as a spra or a dust.

An emulsifiable concentrate or we table powder may be used for spra applications. However, the emulsif able concentrate is to be preferre if available spray equipment does n have an agitator. It mixes more rea ily with water and is less likely t clog spray nozzels. *Do not use chlo dane oil solution since the oil wi harm the cane.* Apply at least 1 gallons of water per acre in a ban 12 to 16 inches wide so that all th seed pieces will be covered.

If dust is used, apply 100 pound of a 2 percent dust per acre. A fert lizer distributor has been found sati factory for applying dust.

CAUTION: Endrin and chlordan are poisonous. Handle with care. Fo low directions and heed all precau tions on container labels.

P FRONT

(Continued from page 163)

e suggested before, a firm market quires that this sugar be placed strong hands. If no important nsumers are prepared to carry it, en it seems some method of isola- on must be found. Perhaps the bject of financing will come up hen Dr. Castro visits the U. S. next eek. If Cuba is prepared to accept e fact that much of her lost sales nnot be made up, then the long run atistical position next season may ell be balanced. This might well be complished by a sharp increase in e estimated Cuban carryover to y 1.5 million tons. This is not un- recedented. A carryover of that ature or higher was carried in the ars 1953-56."

Diet Bricks

Mr. Ody H. Lamborn, President of e big sugar brokerage firm of Lam- rn & Company, Inc., has advanced idea about feeding the poverty riken people of the world that seems have a lot of merit. We print the llowing news release for your con- deration.

"Food bricks" for undernourished untries, to use up United States rplus commodities, was suggested day by Ody H. Lamborn, President, amborn & Company, Inc., in an ldress delivered to the American hemical Society. The Society is lding its 135th Annual Convention re this week.

Mr. Lamborn pointed out that the od processors of the United States ve contributed tremendously to a lanced diet in America by prepar- g a multitude of combinations of tritious foods made palatable in rt by combining sugar with them. e pointed out that, while in theory od is eaten for its nutritive value, practice the choice between foods made on the basis of sensory satis- ction, both as to flavor and appear- nce and that many essential foods ould be repulsive without the ad- tion of sugar.

'Drawing from our experience in the United States', Mr. Lamborn commented, 'I hope that the administrators of our domestic and foreign relief programs will take a leaf from the book of our processed food companies by developing a "diet brick" for poverty-stricken people. Such a brick of food would combine the essential food ingredients for underfed people. The brick would comprise the proper percentage of proteins, fats and carbohydrates and, perhaps, vitamins—the whole made palatable by the use of sugar, the energy-giving food. If something of this kind were done, it would be much more efficient to send shiploads of the "bricks" to those nations suffering from food shortages than it would be to send separate shiploads of wheat, corn and the like. Furthermore, it would relieve the U. S. of some of the criticisms aimed by nations producing wheat, corn and other commodities. Many exporting nations claim that we destroy their markets by dumping our surplus crops—such as wheat and corn. Diet bricks, on the other hand, would be acceptable to the very needy. They would not disturb the normal markets for more orthodox food products.'

Now He Tells Us!

Uncle Sam takes a dim view of bad checks in payment of that Federal income tax for '58. According to Chester A. Usry, Director of the Internal Revenue Service at New Orleans, "Rubber checks" he said, "may subject the maker to definite penalties."

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IN WASHINGTON

(Continued from page 165)

have said privately, before the r cent change in the Cuban gover ment, that the price of sugar woul have to be above 4¢ a pound befor they could make a profit.

It is rumored that one of Dr. Ca tro's plans to make cheap sugar by nationalizing sugar mills in Cub Three mills are reported to have a ready been "nationalized". The mill are the Andorra, Maria Antonia an the Washington. Officials of thos mills, however, have denied that thei mills have been "nationalized". Ac cording to them the mills have bee "intervened with". It is understoo that an "interventor" is at each o the mills to investigate ownershi and all financial transactions to de termine how closely the owners wer associated with former Presiden Batista.

The big worry in Washington a the moment is not how serious Castr is about expanding production an selling three-cent sugar in the Unite States; the question is whether or no Cuba will be able to fill her share o the U. S. quota in 1960. The politica and economical uncertainty in th island may deter sugar producer there from fertilizing, cultivatin standing sugar cane and from plant ing any additional acres.

Both Cuban and American owner of sugar producing properties i Cuba say, "Why should we spen money and time developing our prop erties if the government is going t 'intervene' with it?"

Unless plantings are made and th sugar cane given proper care th 1960 crop might be the smalles Cuban crop in the last 100 years.

EARING SET APRIL 30 ON 1960 MAINLAND SUGARCANE ACREAGE

The U. S. Department of Agriculre has announced that an informal ublic hearing will be held April 30 receive recommendations concernig farm proportionate shares (acrege allotments) for the 1960 sugarne crop in the Mainland Cane Sug- Area (Louisiana and Florida).

The hearing will being at 10 a.m. International House, 607 Gravier treet, New Orleans, La.

Restrictive proportionate shares ere in effect for the sugarcane crops 1954 through 1958. Shares were so established for the 1959 crop, ut on March 4, 1959, USDA relaxed ie restrictions to permit harvest for igar or seed of all 1959-crop sugarne planted prior to that date.

Processor-producers almost unanilously have recommended that the 960-crop acreage be unrestricted.

In making this recommendation, e processor-producers recognize the ssibility of resulting overproducon but prefer this hazard to restricns in 1960. They accept full reponsibility for the results and indite their readiness to undertake any medial action that might be needed ter, without relief either from resed marketing quotas, or Governent purchase programs. Many other oducers also are said to favor unstricted production.

In considering this problem, views e requested on the following points:

1. How many acres would be dted to sugarcane for sugar and ed in Louisiana and in Florida if strictions were not applicable for e 1960 crop?

2. What would be the likely proiction of sugar from the above reage?

3. What should be considered as normal" physical and effective intories? (The effective inventory the physical inventory of sugar hand Jan. 1 plus sugar produced ter that date from sugarcane of e previous year's designation).

4. With high yields in 1959 and 1960, unrestricted acreage in 1960 could result in large inventories of sugar. Will other producers join processor-producers in accepting responsibilty for working off the surplus if one should result?

For use if it should be determined that restrictions will be necessary, views and recommendations are also desired at the hearing on all matters relating to establishment of proportionate shares for the 1960 crop, including the level of restrictions and the following:

1. Should proportionate shares for old-producer farms be established on the basis of (a) the 1959 proportionate shares as originally established, (b) the 1959 sugarcane acreage, or (c) production records in a base period comprising three to five recent crop years?

2. Should a provision be included in the determination to permit transfer of proportionate share acreage from farms on which cane was not grown in 1958 or 1959 to other farms where additional proportionate share acreage can be used? If so, should these transfers be to any farm within the sugarcane area, within the State, or within the parish?

3. Are the provisions authorizing adjustments in shares desirable and adequate?

4. Does the 1959 determination contain adequate provisions relating to reconstitutions, appeals, protection of share tenants and share croppers?

5. Should a general minimum share for old farms be established?

6. At what level should new-producer shares be established?

Briefs may be presented at the hearing (in original and three copies), or mailed to the Director of the Sugar Division, Commodity Stabilization Service, U. S. Department of Agriculture, Washington 25, D. C., so as to be received not later than May 8.

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THE SUGAR BULLETIN

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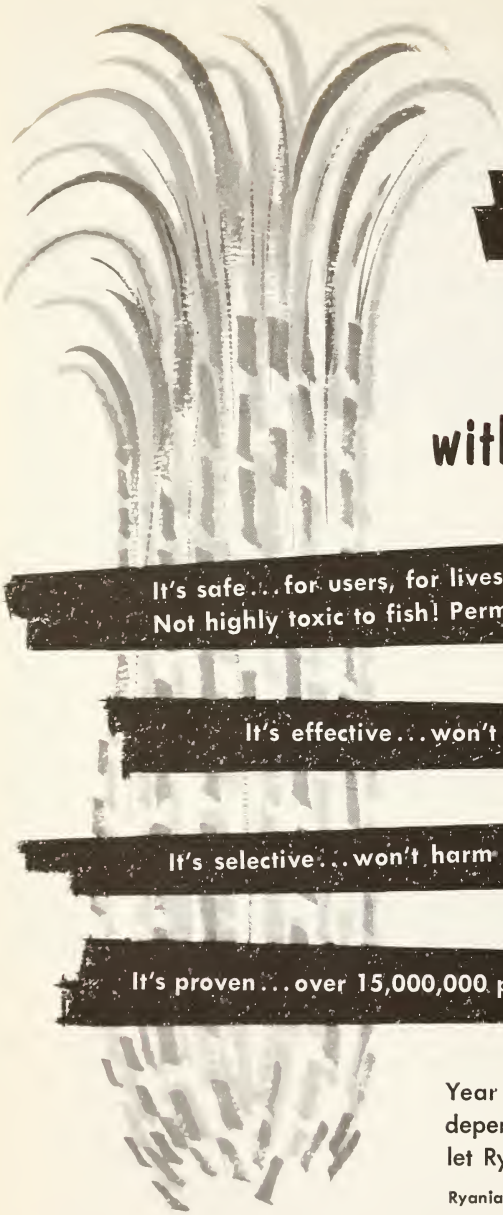
Published on the First and Fifteenth of each month
in the interests of the Domestic Sugar Cane Industry



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Lloyd L. Lauden, Agronomist and Field Representative

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UP FRONT WITH THE LEAGUE

by A. W. Dykers

The Old Mule

To the surprise of most everyone concerned, our sugar market character, The Old Mule, suddenly came to life on April 17th and in less time than it takes to yell "gee" and "haw" had bolted fifty points straight up in one of the most surprising and spectacular performances the old critter has put on in many a moon. Just what changed him from a melancholly mess to a "Silky Sullivan" is anybody's guess but some of the experts are claiming that a new jockey jumped into the saddle while nobody was looking.

Reports have it that a leading Cuban operator was responsible for the sudden change in the market and we are grateful to him not only for the recovery in price but because, for a little while at least, the news from Cuba was different.

Off To See The Wizard

The International Society of Sugar Cane Technologists will convene in Honolulu, Hawaii, on May 4th and we cannot think of a more appropriate place for a meeting of sugar cane experts than our 50th State some 2,000 nautical miles out in the Pacific Ocean.

In our opinion Hawaii is the "wizard" of the world's sugar industries. The Experiment Station of the Hawaiian Sugar Planters Association has worked wonders with the not too fertile soils of these volcanic mountains that nature has pushed up from the floor of the Pacific Ocean and it is fitting that the experts of the world should gather there to see what science has accomplished.

Attending the meeting from Lo isiana will be Dr. E. V. Abbott, D S. J. P. Chilton, Dr. Leo Heber Lloyd L. Lauden, Dr. Henry Lon Ralph Mathes, Dr. R. J. Steib, ar Bronier Thibaut.

Dr. H. M. Tysdal, Dr. I. E. Stoke and Preston Dunckelman will als attend the convention as represent tives of mainland cane sugar.

The convention will last for twent days and we predict that every da will be a day to remember.

Acreage Hearing

Because we must go to press wit this issue of *The Sugar Bulletin,* w are not able to cover the happening at the 1960 Government Acreage A lotment Hearing which will be hel in New Orleans on April 30th. W are able to report, however, that th American Sugar Cane League wi strongly recommend that there be n acreage restrictions imposed on th 1960 Mainland Crop of sugar can To justify this recommendatio League spokesmen will argue as fo lows:

1—Stocks of sugar on hand a the start of 1959 were lower tha they have been since the sugar pro gram began in 1934.

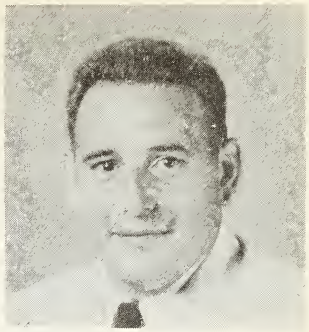
2—The marketing quotas for th mainland sugar mills have bee and will continue to be consider ably larger than they were prio to the 1956 amendments to th Sugar Act.

3—The facilities for storing sug ar in the Mainland Cane Area ar larger than they have ever bee

(Continued on page 181)

IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden



Check Cane Fields For Mosaic Disease

Even though Mosaic, a virus disase of sugar cane, is not at an alarmng stage, the disease will probably pread if growers do not follow the ecommendations of the U.S.D.A. and .S.U. research workers.

The Sugar Bulletin has carried sevral articles on this disease. Check he November 15, 1958, February 15, 959, and the April 15, 1959 issues o get the complete information and ee the article by Dr. E. V. Abbott eginning on page 179 of this issue.

An all out campaign to control Moaic disease will be conducted this ear by the L.S.U. Extension Service hrough the County Agents. Patholoists of the U.S.D.A. and L.S.U. are ontinuing research studies and these cientists will render as much service s time will permit.

County Agents are now planning Mosaic clinics. Attend these meetngs to learn to identify the disease. Growers must pay special attention o the Agent to be certain of Mosaic ymptoms. Observe very specifically nd very carefully the exact pattern f the disease. Ask the County Agent o outline the pattern on the leaf with pencil.

Growers should survey fields now o determine the areas which have nosaic and the percent of infection n the varieties to be used for the uture. Growers should attempt to elect fields for seed purposes which how no Mosaic disease. If this is ot possible, it is recommended that rowers rogue plant cane fields to e used for seed which show 2 perent or less infection of the disase. Roguing stubble is expensive and difficult. It is only recommended for very small acreage of very valuable seed such as the newly released variety C. P. 52-68. Roguing should be done through May and June at two or three week intervals.

If the infection on certain properties has reached the point where roguing is not economically feasible it is recommended that clean seed cane be gotten from other properties which are free of Mosaic disease.

Experience, in the past, has taught growers that only the best field workers should be used for roguing and the same good workers should be used throughout the season as well as year after year.

It must be remembered that when one stool of plant cane is found diseased the entire seed-piece from which the stool came must be removed together with every stool attached to diseased seed-piece. When roguing, special attention should be given to tracking down each stool attached to the seed-piece on which a diseased stool appeared. The seed-piece is easy to break; therefore care should be exercised when digging.

It is also important to point out that the recommendations intend that only cane to be used for seed be rogued. The recommendations do not recommend the roguing of cane to be milled.

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Second-hand all steel cane carts. Notify—John C. Best, Route 1, Box 315 Port Allen, La.

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Sophisticated Washingtonites acted like ten-year old youngsters at their first circus when Fidel Castro came to town! Thousands turned out to greet him with a substantial amount of enthusiasm, but it was plainly evident that their main emotion was curiosity, not hero worship. The attitude of those who saw and listened, was distinctly judicial. Cuba's Dictator was himself on trial in the Court of Public Opinion in this country.

Castro came to Washington without protocol which in itself shows that he is not informed in international good manners, because under the advantages of protocol, the hosts go out of their way to avoid outwardly hurting the feelings of guests from foreign countries. If Castro had been invited by our government to visit Washington he would have been the guest of the Nation; he would have led a big parade from the international airport to Blair House, where distinguished guests of the government are domiciled. He would have met the President, and enjoyed all the courtesies that are extended to distinguished officers of foreign governments.

On his self-invited visit Castro, at his own request, was granted a conference with the Vice President, and the Acting Secretary of State. His only invitations were from newspaper editors and reporters. His public relations advisers arranged for him to appear on television and created numerous opportunities for him to display himself to a large number of Americans, for the express purpose of giving us an opportunity of making a judgment, which they hope would be favorable, of that young man.

A close-up of Cuba's Prime Minister, showed a man of great personal magnetism. He is tall, broad shouldered, and perhaps would be very handsome without his lush, bushy beard. Everyone who saw him in action amid the barrage of questions of dozens of interviewers, has great admiration for his intelligence, but only those who have had to debate in a strange language can fully appreciate Dr. Castro's extraordinary performance.

During his stay in Washington Castro spoke thousands and thousands of words, but answered practically no questions. The consensus of the seasoned Washington newspaper, radio and television editors and commentators is that something was missing. Some say it was a sense of maturity, others are not so polite or discreet in their comments. They say that despite his rough dress and bad manners, he looks like a "softy" and behaves like an immature boy.

Now that Castro has come and gone, Washington is cold, not from the unseasonably chilly winds from the northwest, but from a feeling of apprehension. The impression left by Castro was that of a very young man intoxicated by sudden success, who was completely unaware of and unqualified for the tremendous task of building a democracy in a country where, during most of its existence, democracy has been only a figure of speech.

Our government officials have had

(Continued on page 181)

MPORTANCE OF MOSAIC IN PRESENT COMMERCIAL VARIETIES OF SUGARCANE IN LOUISIANA

By E. V. Abbott, Plant Pathologist, Crops Research Division, Agricultural Research Service, United States Department of Agriculture

Mosaic has again become a factor o be considered in the sugarcane isease situation in Louisiana. There re two reasons for this: (1) the elease of varieties susceptible to he disease, and (2) the appearance f a new strain of the mosaic virus ble to infect ordinarily resistant arieties as C.P. 44-101.[1] At pre-ent, high percentages of mosaic in-ection in commercial fields occur nly in certain areas along Bayou afourche and the lower Missis-ippi River. However, the disease s present to some extent in most reas of the sugar district of the tate, and unless steps are taken ow to prevent further spread and o reduce infection in the sections here it is high, the entire district nay be confronted with a serious nosaic problem.

The importance of mosaic in re-ucing yields of cane is shown by esults of field experiments con-ucted during the past 3 years with he commercial varieties principally ffected: C.P. 44-101, C.P. 52-68, nd N.Co. 310. Mosaic-infected and ealthy seed cane of each variety lanted in plots 3 rows wide and 8 feet long (approximately 1/160 cre) in early October. There were replications each of healthy and nosaic-infected seed cane of each ariety. Stand counts were made n all plots in the spring and the eight of millable cane obtained at arvest time in the fall. Plant cane as harvested in late November and tubble cane in late October or arly November. The results are iven in table 1.

It is apparent from the table that ne of the reasons for losses caused y mosaic is the reduction in stands f cane, particularly in C.P. 44-101 nd C.P. 52-68. The reduction in ield of cane per acre of N.Co. 310 planted with mosaic-infected seed cane was slightly less than half that of C.P. 44-101 and C.P. 52-68. While the reason is probably that N.Co. 310 is more tolerant to the effects of mosaic, the yields of the originally healthy plots of this variety were affected because there was considerable spread of mosaic into them, infection reaching 13 per cent by the end of the plant-cane year. Spread into the healthy plots of C.P. 44-101 was much less; infection reached only 2 percent. The data in table 2 also show that mosaic spreads more rapidly in N.Co. 310 than in C.P. 44-101 or C.P. 52-68. This is borne out by other field observations.

Mosaic has little if any effect on the sucrose content of mill cane. Samples for sucrose analysis taken from all plots in the experiments reported in table 1 showed no significant difference in the sucrose content of mosaic and healthy cane.

Since the sugarcane variety census[2] shows that the acreage of N.Co. 310 is continuing to expand, and it is anticipated that C.P. 52-68 will be expanded this year to the limit of the seed supply, it is very important that mosaic be brought under control. The only effective means of accomplishing this in susceptible varieties is by keeping fields to be used for seed cane free of the disease, or nearly so as possible. Fields from which seed cane is to be taken should be examined in the spring, and where mosaic is present should be rogued if the infection does not exceed 2 pecent. Roguing fields where the mosaic infection is higher than that is ordinarily too expensive; furthermore, the continued spread of the disease that is likely to occur during the roguing

(Continued on next page)

period will prevent success. Mosaic is transmitted from diseased to healthy plants by aphids, or plant lice.

Inspection of fields to be used for seed cane should begin as soon as stands are well established in the spring and the leaves show no frost injury. This will usually be in April, but should not be later than early May. It should also be done if possible before chemicals such as TCA are applied, since chemical injury to the leaves may make it difficult to recognize mosaic. Where mosaic is found and there is more than an occasional infected plant, the approximate percent of infection should be determined. This can be done by counting 100 consecutive plants or stools in a row and keeping track of the mosaic-infected ones. Then skip 3 to 5 rows and make another count. Repeat this procedure until at least 5 counts of 100 plants each have been made in different parts of the square of cane. The approximate averag percentage of mosaic infection the square can thus be arrived a This should be repeated in a squares of cane that are to be us for seed cane.

If mosaic infection is not over percent, the infected plants and tl entire seed piece from which the have germinated should be dug o and destroyed. The field should l rogued a second time in 10 to 1 days, and preferably a third tim not later than early June, befo the cane gets too tall. Recognitic of mosaic becomes more difficu and time-consuming after the upp leaves are above eye level. Howeve if the necessary labor can be spare going through the field again ju before planting time and cutting o any infected stools will be helpf in eliminating mosaic resulting fro spread that may have occurred du ing the summer.

Ordinarily, roguing is recom mended only in plant cane; diggin

Table 1. Effect of mosaic on stand and yield of cane of 3 varieties of sugarcane in Louisiana, 1957 and 1958.

Variety, crop, and year	Reduction in stand from mosaic	Cane per acre		
		Healthy	Mosaic-infected	Reduction by mosaic
	%	Tons	Tons	%
N.Co. 310:				
Plant cane, 1957	16.5	32.1	26.9	16.2
Plant cane, 1958	17.1	26.7	20.8	23.1
First stubble, 1958	9.1	30.2	28.6	5.3
3 crops.....	----	89.0	76.3	14.3
C.P. 44-101:				
Plant cane, 1957	7.2	25.1	20.9	16.8
Plant cane, 1958	33.8	23.4	14.4	38.5
First stubble, 1958	29.0	29.7	20.4	31.3
3 crops.....	----	78.2	55.7	28.8
C.P. 52-68:				
Plant cane, 1957	27.7	30.1	17.7	41.2
Plant cane, 1958	20.8	23.1	18.4	20.3
First stubble, 1958	----	16.1	10.3	26.0
3 crops.....	----	69.3	46.4	33.0

Table 2. Mosaic infection developing in originally healthy plots of N.Co. 310, C.P. 44-101, and C.P. 52-68 at Raceland, Louisiana, 1956-1958.

Variety	Mosaic infection in -					
	Plant cane			First stubble		
	1956	1957	1958	1956	1957	1958
	%	%	%	%	%	%
N.Co. 310	47	9	32	Tr	59	32
C.P. 44-101	22	10	5	Tr	32	23
C.P. 52-68	30	16	8	--	43	18

ut stools of stubble is difficult and xpensive. However, if the seed cane upply of a new variety is limited, s it will be of C.P. 52-68 this year, r if the percentage of mosaic is ery low, roguing of stubble cane s justified.

Roguing of mosaic-infected plants rom mill cane is not recommended. While doing so would reduce the mount of mosaic on a farm that night serve as a source of spread f the disease to seed plots, the xpense would be too great. Efforts o control mosaic should be concen- rated on seed-cane plots.

Some mosaic may be found in ther commercial varieties, particularly C.P. 36-105 and C.P. 48-103, in areas where the disease has become prevalent in N.Co. 310. In any area where mosaic is found, fields of these varieties to be used for seed cane should be examined and thoroughly rogued. An occasional stool infected with mosaic may be found in C.P. 36-13, C.P. 44-155, and C.P. 47-193, but at present there is no indication that the disease will become a problem in these varieties.

[1] Abbott, E. V. Strains of sugarcane mosaic virus in Louisiana. The Sugar Bul. 37(4): 49-51. 1958.

[2] Hebert, L. P. The Louisiana sugarcane variety census for 1958. The Sugar Bul. 36(22): 298-301. 1958.

IN WASHINGTON

(Continued from page 178)

wide experience in dealing with Latin American Dictators. Many times in he past individuals have arisen to ead the oppressed peoples of vari- us Latin American countries to over- hrow tyrants, but with a few ex- ceptions history will show that in Latin America one revolution suc- ceeds another and each success achieved by ruthless blood letting has nearly always left behind graft, corruption and political chaos.

All true friends of Cuba hope that this time it will be different, and that Castro's dreams of a new and better Cuba will soon come true, but they have their doubts.

UP FRONT

(Continued from page 176)

since the start of the sugar program.

4—The acreage in cane in the Mainland Cane Area is below normal now and will not exceed normal if restrictions are removed for 1960.

5—Acreage restrictions which have been in effect since 1954 have caused some factories to experience an undue reduction in cane supply and removal of acreage restrictions is the most satisfactory solution to this problem.

The lifting of acreage restrictions will have no effect on the making of benefit payments under the Sugar Act.

(Continued on next page)

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We will report further on the Hea ing in the next issue of *The Sug Bulletin.*

Sugar—2000

The following news release is fo for thought and we pass it along f your consideration.

"By 1975 sugar requirements the United States will be 31 p cent greater than today, accordi to Lamborn & Company, Inc., su ar brokers. At the present time t United States consumes 9,000,0 short tons, raw value, annually.

Predictions are that the Unit States population, now a little ov 175 millions, will grow to 230 mi lions by 1975, and to 350 millio by the year 2000.

The annual per capita sugar co sumption of the United States 96 pounds of refined sugar. O this basis the United States will r quire in 1975 about 12,000,0 short tons, raw sugar value, as co trasted with the 9,000,000 tons b ing consumed currently.

By the year 2000, the require ments of the United States shoul reach 18,000,000 tons if the ind cated population increase take place.

The World population now is billions, 800 millions. It is predict ed by experts that World popula tion will be 5 billions 300 million in the year 2000. The World a present consumes 47 millions o tons of sugar. If the World pe capita consumption were to re main constant at its present 3 pounds of sugar, World needs wil grow to upwards of 80 million met ric tons by the year 2000."

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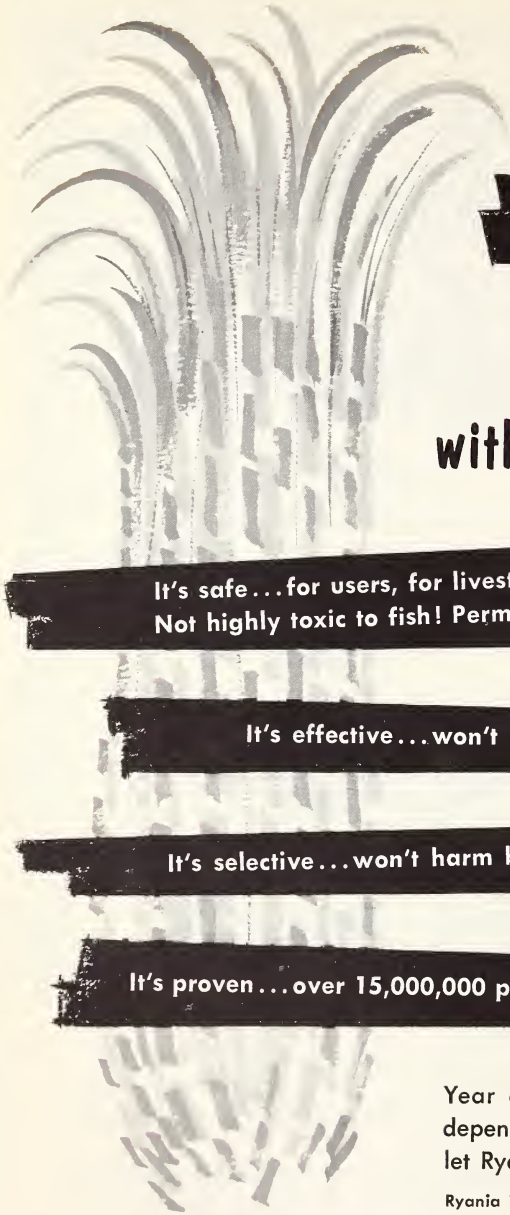
Published on the First and Fifteenth of each month
in the interests of the Domestic Sugar Cane Industry



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THE
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414 Whitney Bldg., New Orleans 12

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

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UP FRONT WITH THE LEAGUE

by A. W. Dykers

Acreage Hearing

The government hearing on 1960 cane acreage (Proportionate Shares) was held as per schedule in the Auditorium of the International House in New Orleans on April 30th. Presiding over the meeting in his usual efficient manner was the Sugar Division's second-in-command, Mr. Tom Murphy, and flanking him at the presiding officer's table were, on his right, Mr. William Alewine and, on his left, Mr. Ole Homstad.

We reported in the May 1st issue of The Sugar Bulletin that the American Sugar Cane League would strongly advocate that no acreage restrictions be imposed on the Louisiana and Florida cane farmers for the 1960 crop, and Mr. W. S. Chadwick, Chairman of the League's Proportionate Shares Committee, read a 4,500 word statement supporting this proposal.

The Florida delegation was split down the middle with Mr. Harry Vaughn, President of the big United States Sugar Corporation, opposing unrestricted acreage and Mr. George Sally, of Okeelanta, very much in favor of unrestricted acreage. Two U. S. Sugar Corpn., growers also objected to unrestricted acreage.

From where we sat, it appeared that the U. S. Sugar Company people were worried a lot more about what Okeelanta would do if unrestricted than they were about any acreage expansion that might occur in Louisiana. It will be recalled that Okeelanta has recently purchased the Felsmere properties leaving only two sugar companies in Florida.

To reminisce a little, we remember when it was the usual thing at one of these hearings for Louisiana and Florida to disagree on the formula for dividing *restricted acreage* and we also recall several instances in the pre-Chadwick-Durbin era when a number of different recommendations were made by our own Louisiana producers.

Old timers who recall a marketing allotment hearing held a long time ago in Mobile will remember that Clarence R. Bidding, then President of the United States Sugar Corporation, referred to the Louisiana sugar processors as the "fifty-seven different varieties" because nearly everybody seemed to have a different idea about how the Government should divide the restricted marketing quota, but this latest development is probably the first time in the history of the Sugar Act that growers of sugar cane have objected to having no restrictions at all!

How the Government will settle the issue is anybody's guess. The fact that Messrs Alewine and Homstad seemed anxious to obtain recommendations for dividing the acreage "in case restrictions are imposed" may or may not be significant. We understand that the Proportionate Shares Committee has filed a supplemental brief to take care of this eventuality.

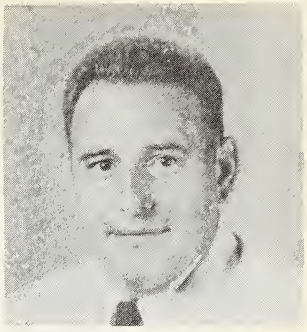
F. Elliott Jones

It is with a feeling of deep regret that we record the death of our friend Mr. F. Elliott Jones, who died on May 11th. Mr. Jones was 77 years old and much of his life was spent

(Continued on page 195)

IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden



A Report From Hawaii

The International Society of Sugar Cane Technologists is presently holding its Tenth Congress in the beautiful Hawaiian Islands. Representatives of most sugar cane countries are here to discuss mutual problems, to hear results of research conducted the world over, and to see sugar cane production in a king size manner in this land of enchantment.

Sugar cane is produced on only four of the Islands. The 222,000 acres of cane fields are located on the Islands of Hawaii, Maui, Oahu, and Kauai. The annual production of sugar on these islands is slightly more than twice that of the Louisiana industry.

The amount of rainfall varies considerably. In central Kauai near the summit of Mount Waialeale, at 5,075 feet elevation, the average annual rainfall is over 450 inches. Fifteen miles away at Waimea and Waiawa, at about sea level, the annual rainfall is only 19 inches. The temperature is very favorable for the production of cane. In some areas there is a difference of more than 20 degrees of temperature between day and night, and these are the areas with better cane juice, according to a report by Mr. W. W. G. Moir, General Secretary-Treasurer of the Tenth Congress. There is only a six or seven degree temperature difference between the warmest and the coolest month.

One of the first places visited by the delegates was the world famed Experiment Station of the Hawaiian Sugar Planters' Association. The present staff includes 103 researchers who conduct studies in soils, fertilization, cultural practices, irrigation, chemistry, weed control, insect control, field engineering, cane breeding and selection, disease control, geophysics, physiology of the cane plant, and sugar technology. According to Dr. L. D. Baver, Director of the Station, departments work together to solve a problem, and the plantations also cooperate in research projects. This is illustrated by two departments working together to solve one problem on a plantation. It is generally agreed that the Experiment Station, H. S. P. A. has outstanding scientists in all fields. Their excellent reputation is known the world over.

Sugar cane breeding is an important part of the work of the Experiment Station, H. S. P. A. During the last breeding season 4442 crosses were made. The Station uses the "Bunch Type Method" for setting seedlings in the fields for selection. This method, where 3 to 15 seedlings are set to the bunch, utilizes less space in the field, makes use of natural competition for selection, and gives the plant breeder an opportunity to evaluate larger populations of many more crosses. This method has proven very effective in Hawaii. Louisiana is now trying this method with hope of success.

Like Louisiana, Hawaii has its disease problems. Red Rot now occurs on each island and is causing much concern. Pineapple disease causes poor germination in some areas and chlorotic streak is still of major im-

(Continued on page 194)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

The United States Sugar Corporation's Mill at Clewiston, Florida recently completed its 1958-1959 sugar season. Beginning on November 4, 1958 the mill ground for 170 days. A new low record for lost time, 2.12% was the lowest ever recorded in its 30 years of operation. During the 170 harvest days, the mill ground 1,042,678 tons of sugar cane, from which it produced 108,649 tons of raw sugar.

According to Harry T. Vaughn, President, the extreme cold weather over long periods of time during the winter of 1957-1958 had its affect on the crop of cane just harvested and resulted in holding production down. Favorable weather so far this year indicates a bumper crop for the coming harvest season which will begin about November 1st.

Philippine Ambassador Carlos P. Romulo is making a determined effort to get a larger sugar quota for his country when the Sugar Act comes up for consideration by Congress this year. In a memorandum to Agriculture Secretary Ezra T. Benson, Ambassador Romulo presented the following statistics:

"When the U.S. sugar quota system was initiated in 1934 under the Jones-Costigan Act, the Philippine sugar industry made the greatest sacrifice by cutting its production by more than 50%, from 1,652,000 short tons in 1933-34 to approximately 754,000 tons in 1934-35.

"During the war and for eight years after liberation the Philippines was rehabilitating and restoring mills destroyed during the war and therefore was unable to meet its quotas to the United States. Its total deficit of 8,000,000 tons during these years was filled principally by Cuba and other foreign countries, which thus benefited by Philippine involvement in the war.

"Before the war the Philippines had a percentage basis of 15.41% of total quotas and thus was able to participate in increased consumption. *The U.S.-Philippine* trade act of 1946 put the Philippine on a fixed quota of 952,000 short tons annually and precluded the Philippines from participating in any increased consumption. However, *the revised trade act of 1955* made provision for giving the Philippines a share in increased consumption, provided Congress approved.

"The U.S. Congress failed to approve any increase for the Philippines when it considered the Sugar Act in 1948, in 1955 and in 1956, thus *leaving the Philippines as the only major area excluded* from participating in increased sugar consumption in Continental United States.

"President Eisenhower, in signing the sugar legislation in 1956, took cognizance of the Philippine position and said that when the Sugar Act came up for consideration again 'consideration should be given to allowing the Philippines to share in increased consumption, as is now provided for other foreign countries by this bill."

Ambassador Romulo's note to Secretary Benson stated:

(Continued on page 195)

THE LOUISIANA SUGARCANE VARIETY CENSUS FOR 1959

By Leo P. Hebert, Research Agronomist, Crops Research Division, Agricultural Research Service, United States Department of Agriculture [1]

With the cooperation of the County Agents, the 1959 sugarcane variety census for Louisiana has just been completed. The percentages of the proportionate share acreage of sugarcane occupied by the principal varieties in the sugarcane district as determined by the Agents are summarized in this report. Results of this census are of special interest to the industry and to research workers who develop new varieties for Louisiana.

Table 1 presents the results of the 1959 census for the 18 parishes which constitute 99.96 percent of the State acreage of sugarcane grown for sugar, according to the Agricultural Stabilization Service of the U. S. Department of Agriculture.[2]

C.P. 44-101 is still the most widely planted variety in each area and in the State as a whole; it occupies 47.64 percent of the acreage. There is a relatively lower percentage in the Northern area and a relatively higher percentage in the Southern area devoted to that variety. In 3 parishes of the Northern area, Avoyelles, Rapides, and West Feciliana, it is planted on less than 10 percent of the acreage (data not shown).

N.Co. 310 is in second place in 2 of the 3 areas and in the State as a whole. In the Northern area it occupies an area essentially equal to that of the second-place variety in that area, C.P. 36-105. N.Co. 310 is equally popular in all parts of the sugar district, being planted on approximately 19 percent of the acreage in each one of the 3 areas and averaging 19.33 percent of the State cane acreage.

C.P. 36-105 is in third place, occupying slightly more than 12 percent of the acreage in the State. It is still grown on nearly 20 percent of the acreage in the Northern area and on 50 percent or more in the 3 parishes mentioned above (Avoyelles, Rapides, and West Feliciana). Although the heat treatment for the control of the ratoon stunting disease considerably improves growth and yields of this variety, the resulting greater brittleness makes mechanical harvesting of it difficult when it is lodged.

C.P. 44-155 is in fourth place, occupying 5.82 percent of the State acreage. More than half of the plantings of this variety are found in the Southwestern area. Three varieties, C.P. 48-103, C.P. 36-13, and C.P. 47-193, each occupy approximately 3 percent of the acreage, while C.P. 43-47 and C.P. 44-154 are planted on a very small acreage. C.P. 43-47 is evenly distributed among the 3 areas, but C.P. 44-154 is limited to the Southwestern area almost exclusively. C.P. 52-68, released for commercial utilization in 1958, is planted on 0.45 percent of the acreage. The area devoted to the variety is necessarily small because of the limited seed supply.

Other varieties occupy 2.41 percent of the sugarcane acreage. They include Co. 290 and C.P. 29-116, confined almost exclusively to the Southwestern area, and C.P. 29-320 and C.P. 34-120 in the Northern area. Only one of the 4, C.P. 29-116, was never a leading variety in the State. The other 3 were extensively grown in Louisiana in the past and each one was planted on 25 percent or more of the State acreage at some time.

Table 1-B and Figure 1 give the change in variety utilization in recent years. N.Co. 310 is planted on 8.17 percent more acres in 1959 than in 1958, and the percentage of the acreage devoted to that variety has increased 17.88 percent in the past

(Tables on next two pages)
(Article continued on page 194)

TABLE 1

RESULTS OF THE 1959 VARIETY CENSUS

A. Percentage of the acreage in each of 10 varieties for each area of the Louisiana Sugar District and for the State, 1959 crop.

Area	VARIETY										Other varieties	Percent of State acreage[1]
	C.P. 44-101	N.Co. 310	C.P. 36-105	C.P. 44-155	C.P. 48-103	C.P. 36-13	C.P. 47-193	C.P. 43-47	C.P. 44-154	C.P. 52-68		
Southeastern[2]	49.50	19.67	12.89	4.48	4.82	1.38	3.32	1.85	0.48	0.43	1.18	46.83
Southwestern[3]	47.16	18.85	8.32	8.57	1.13	5.38	1.71	1.33	3.01	0.35	4.19	36.16
Northern[4]	43.65	19.46	19.96	3.68	2.23	2.45	4.32	1.47	----	0.76	2.02	16.97
State	47.64	19.33	12.44	5.82	3.05	3.00	2.90	1.60	1.32	0.45	2.41	99.96

B. Relative change in variety position, expressed in percent increase (+) or decrease (-) of surveyed acreage.

Period	N.Co. 310	C.P. 52-68[5]	C.P. 47-193	C.P. 36-13	C.P. 48-103	C.P. 44-154	C.P. 44-155	C.P. 43-47	C.P. 36-105	C.P. 44-101
1958-59	+8.17	0.45	+0.25	+0.22	+0.10	-0.03	-0.58	-0.81	-2.77	-3.27
1955-59	+17.86	0.45	+2.90	-1.81	+3.05	-0.09	-5.66	-2.91	-11.43	+5.40

1/ Anon. Cropland - Proportionate share - Planted acres of Louisiana sugarcane farms participating in the sugar program by parishes. The Sugar Bulletin 36(22): 287. August 15, 1958.
2/ Ascension, Assumption, Lafourche, St. Charles, St. James, St. John, and Terrebonne.
3/ Iberia, Lafayette, St. Martin, St. Mary, and Vermilion.
4/ Avoyelles, Iberville, Pointe Coupee, Rapides, West Baton Rouge, and West Feliciana.
5/ State average, 1959 only.

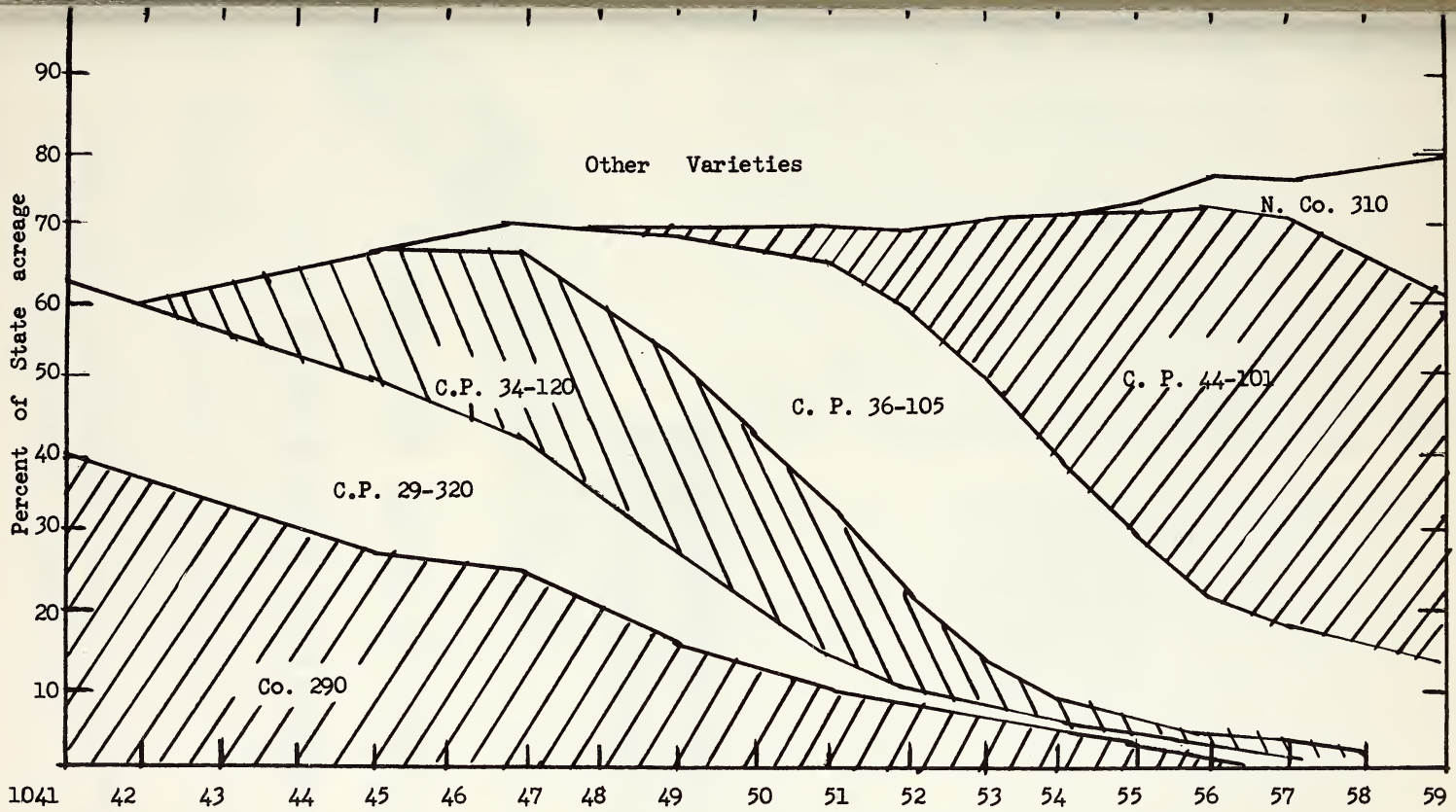


Fig. 1. Changes in the distribution of Louisiana sugarcane acreage among important varieties during the period 1941-1959.

CENSUS

(Continued from page 191)

5 years. Indications are that still more acreage will be devoted to this high-yielding variety in the next few years. Earlier evaluation of this variety recognized its good yielding ability but also noted its susceptibility to lodging. Machines now in use can harvest badly lodged cane, especially a variety such as N.Co. 310, which is resistant to breakage.

Except for C.P. 44-101, which decreased in acreage 3.27 percent, and C.P. 36-105, 2.77 percent, there has been little change in variety utilization during the past year. The only major changes in variety plantings since 1955 have been the increase in N.Co. 310 and the decrease in C.P. 36-105.

[1] The author is indebted to the following agents who supplied the information on varietal plantings in the various parishes: Claude Songy, J. M. Bankston, E. J. Lousteau, K. J. Ducote, W. E. Williams, Edward Burleigh, S. J. Bowles, A. J. Brackin, C. J. Arceneaux, Sterling Deville, A. J. Melancon, Minos Granger, Richard Sonnier, Murphy Veillon, H. A. Webb, a to Mr. C. M. Straud, Assistant Farm Supe intendent, Angola, for the West Feciliar data.

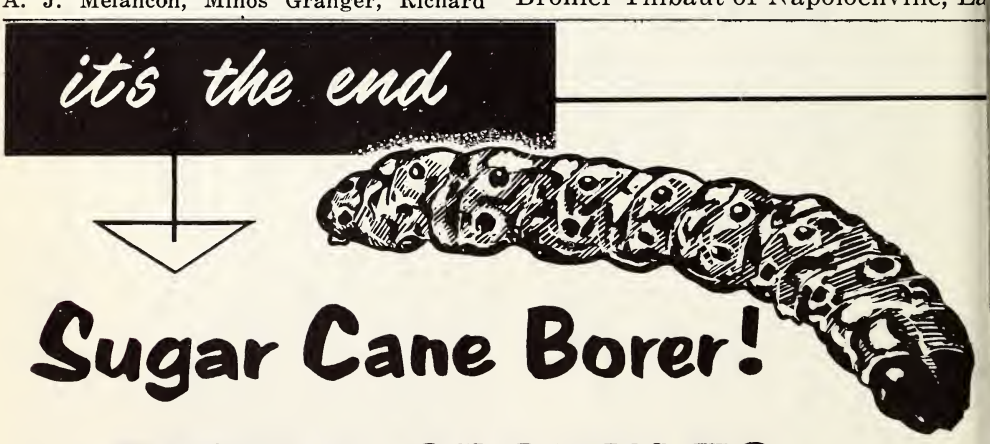
[2] Anon. (Official production tables, 195 57, from A.S.C. Reports). The Sug Bulletin 36(22): 287. 1958.

IN THE FIELD

(Continued from page 189)

portance in the heavy rainfall area

The field delegation has visite four plantations on Oahu Island thu far (date May 8). The staffs c Waialua Agricultural Co., Ltd., Ka huku Plantation Company, Ew Plantation Company, and Oahu Sug ar Company, Limited, certainly ha an excellent program arrange Every delegate was impressed wit the precision timing of the tour. T most of the Louisiana field delega tion, irrigation demonstrations wer most interesting. The very hig yields of cane and sugar per acr were also impressive. To the Lou isiana field delegation the cane clean ing plant was most impressive. Afte seeing the trash problem here, Mr Bronier Thibaut of Napoloenville, La



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uid "I am glad we don't have the ock problem." Rocks 18 inches in iameter are separated from the cane n the cleaning operation.

The production of sugar cane here quite different from that of Louiana and it is hoped that while here ne Louisiana delegation will learn mething new to increase production of cane at home. Hawaii is going ll out to show the Congress everyning.

—o—

N WASHINGTON

(Continued from page 190)

"The Philippine Government and sugar producers, both mill owners and sugar planters, have looked forward to this present consideration of the sugar legislation to give effect to the provisions of the Philippine - American Agreement referred to and to the statement made by President Eisenhower in signing the sugar bill in 1956."

According to Philippine sugar pokesmen, that country has no designs against U.S. domestic producrs' quotas, but it would not be adverse to enlarging the Philippine uota at the expense of Cuba.

—o—

JP FRONT

(Continued from page 188)

n service to the Louisiana Sugar ndustry.

For as long as we can remember Elliott Jones was the field expert at outhdown. He worked with David V. Pipes, Jr. in the twenties to ropagate and distribute the life saving P.O.J. canes when Mosaic disease ll but destroyed the Louisiana sugar ndustry, and for the rest of his life, ll spent at Southdown, he continued o be one of Louisiana's most reected varietal expert.

Mr. Jones was a member of the Contact Committee of the American Sugar Cane League and also was Chairman of the League's Flood Control Committee. His work with the atter Committee gained him the respect and admiration of everyone onnected with flood control work in his part of the country and we feel quite sure that they will miss him as much as we will. We extend our deepest sympathy to his family in their hour of sorrow.

Growers To Elect

We call special attention to the following schedule of meetings that will be held June 1st through June 3rd to give the farmers in the various sections of the sugar belt an opportunity to elect the grower members of the Grower-Processor Committee.

We presume that everyone knows that the Grower-Processor Committee is not a Committee of the American Sugar Cane League. The meetings have been planned by the Committee with the assistance of Denver T. Loupe, Associate Specialists with the Louisiana State Agricultural Extension Service.

These elections have been a long time coming. We urge every cane farmer to take advantage of the opportunity they present to have a share in the responsibility of choosing the grower representatives on the very important Grower-Processor Committee. The meetings have been scheduled as follows:

I. At the boarding house of the Meeker Sugar Co-op, at 2:00 P.M., Monday, June 1. Growers from Avoyelles, Rapides and St. Landry Parishes will elect one regular member of the committee and one alternate.

II. At the American Legion Building in White Castle, at 9:30 A.M., Tuesday, June 2. Growers from Pointe Coupee, West Baton Rouge, Iberville, Ascension, St. James, St. John and St. Charles Parishes will elect two regular members and one alternate.

III. At the Agricultural Building in Thibodaux, at 2:00 P.M., Tuesday, June 2. Growers from Assumption, Lafourche and Terrebonne Parishes will elect two regular members and one alternate.

IV. At the Parish Courthouse in New Iberia, at 2:00 P.M., Wednesday, June 3. Growers from St. Mary, Iberia, St. Martin, Lafayette and Vermilion Parishes will elect two members and one alternate.

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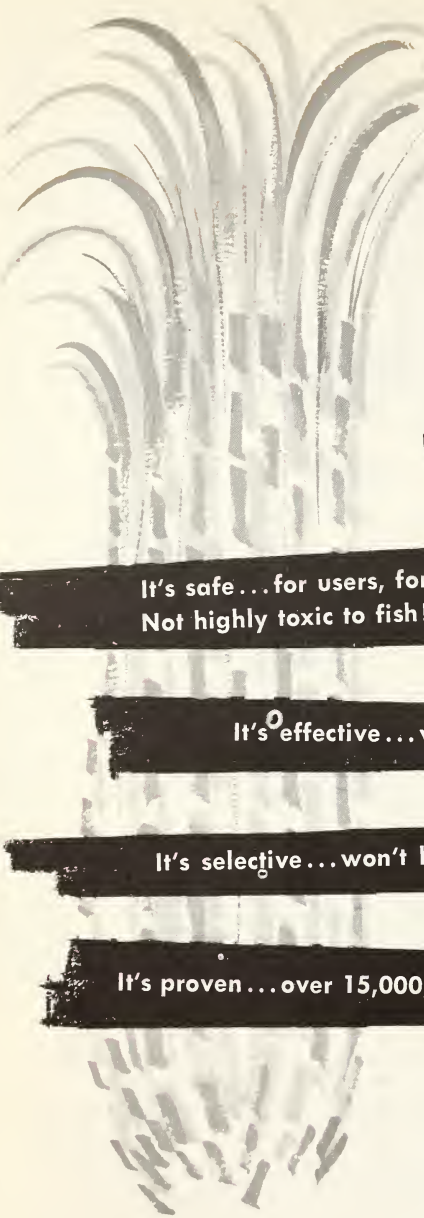
in the interests of the Domestic Sugar Cane Industry



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THE SUGAR BULLETIN

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Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

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UP FRONT WITH THE LEAGUE

by A. W. Dykers

Acreage Restrictions Lifted

The Louisiana and Florida sugar cane farmers will be allowed to plant as much acreage to cane for the 1960 crop as they deem feasible. This good news was received from Washington on May 25th when the Sugar Division announced that no restrictions will be "imposed on the marketing of *sugar cane* from the 1960 crop in the mainland cane sugar area."

Attention is called to the fact that the wording of the Washington press release lifting acreage restrictions is a little confusing because it refers to "marketing of sugar cane". This does not mean that sugar marketing allotments for the mills have been done away with for the 1960 crop. The lifting of restrictions is confined entirely to the amount of acreage that may be devoted to sugar cane for the 1960 crop.

In deciding to permit the marketing for sugar or seed of all sugar cane on each farm from the 1960 crop, the Department's consideration, according to the official press release, included the following points.

(1) The effective inventory on January 1, 1959 was less than desirable. This resulted from increases in the 1958 marketing quota for the mainland cane sugar area because of large deficits in offshore domestic areas and a smaller than anticipated 1958-crop sugar production in the area itself.

(2) Despite action by the Department on March 4 of this year to permit the harvesting for sugar or seed of all 1959 crop acreage of sugar cane growing on that date, the effective inventory on Januar 1, 1960 probably also will be les than desirable.

(3) Unrestricted acreage for th 1960 crop should enable the are to meet its quota under the Suga Act and build sugar stocks to more normal level.

(4) Although it may impos general readjustment problems i and when restrictions are reim posed, unrestricted acreage for th 1960 crop will permit desirable ad justments in the acreage availabl within certain mill areas.

The determination providing fo unrestricted farm marketings fror the 1960 crop is in accord with th recommendations made at a publi hearing held in New Orleans, Louisi ana, April 30, 1959 by industr spokesmen representing producers o about 80% of the sugar in the area

Cuban Agrarian Reform

Everyone knows by now that Fide Castro's Cuba has adopted a land re form program that is calculated t break up the big sugar plantations The idea seems to be a sort of "Robi Hood" deal to take from those wh have and give to those who have not a scheme that we feel quite sur meets with the wholehearted approv al of those who have *not*, but whic must be rather disturbing to thos who *have*.

We have just received the May 22n "Sugar Review" of Merril Lynch Pierce, Fenner & Smith in which they discuss the Cuban situation at some length. We quote below from this

(Continued on page 203)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

The number one news item in the mainland cane area is the removel f acreage restrictions on the 1960 rop. In a Determination issued May 5th by the U. S. Department of Agiculture, unrestricted farm marketng from 1960 crop sugar cane will e permitted. This is in accordance vith the recommendations of indusry spokesmen representing approxmately eighty percent of the producion in the area, at a hearing held April 30th in New Orleans, Louisiana.

Legislation to extend the Sugar Act may have to be put off until ext year, according to Congressman Harold E. Cooley (Democrat, North Carolina) Chairman of the House Agriculture Committee.

Representative Cooley, a key man n sugar legislation, because such egislation must originate in the House of Representatives, said he ad decided to postpone consideration f sugar quota extension because of he chaotic political situation in Cuba. Cooley said he wanted to wait until e found out more about Fidel Casro's agrarian reform law. If the Castro law is put into effect in Cuba, t is expected to result in the expropriation of American owned sugar nills and plantations there. Mr. Mr. Cooley said that to bring a Sugar Act extension Bill to the floor of the House now simply would result in requests to cut the Cuban quota in etaliation for his (Castro's) abuse f American property owners in Cuba.

Both American and Cuban sugar nill owners have sent a warning to Prime Minister Castro that his proposed agrarian reform law spells "doom" for the Cuban sugar industry. The law, among other things, bars sugar mill owners from growing sugar cane; prohibits United States ownership of stock in companies producing sugar cane, prohibits Cuban sugar cane growers from owning stock in sugar mills and limits sugar cane plantations to a maximum of 1,000 acres.

Castro, himself, may be called on the carpet soon by Cuban public opinion. Some of the large sugar mill owners in Cuba are beginning to wonder discreetly why there has been no public accounting of the "rebel tax" money paid to officials of Fidel Castro's revolutionary party. While they make no suggestions that any of the tax money was turned into personal gain, they do believe that the July 26th Movement should furnish for the Cuban people an accounting of how these tax funds are being expended since they are now a part of public treasury funds.

It is reported by sugar interests in Cuba that about eight million dolars which has been collected by the revolutionary party has not been accounted for. The fund originated with the fifteen-cent-a-bag tax placed on sugar by Castro's rebel forces during the combat stage of the revolution. According to the mill owners the tax was paid by checks payable to individuals designated by Castro as "party collectors". When those paying the tax suggested that the check should be made payable to the national treasury, the collectors pointed out that the taxes were levied dur-

(Continued on page 207)

TALK BY GILBERT J. DURBIN AT CONFERENCE ON INDUSTRIAL USE OF SUGAR CANE BAGASSE

I have been asked to discuss why the Louisiana sugar industry needs to make better use of its by-products. That is an easier subject than the question of *how* to improve the use of our by-products. I commend those responsible for this bagasse conference being held for the purpose of considering various ways to use *that* by-product.

The Louisiana sugar industry needs more income. That's the reason we need better-paying uses for our by-products. It's just that simple.

The price of raw sugar, the principal product of our industry, has remained near the same level for the last 12 years, while our items of cost have gone up substantially. Cane factory wage rates are 2½ times what they were 12 years ago. We have felt not only the increase in our factory wage rates but also the general increase in wages which is reflected in everything we buy and in every service for which we contract.

The over-all index of industrial wholesale prices is up 27.6% over the base period 1947-49. The increase in cost of sugar mill machinery has been considerably more than that. The newest cane factory in Louisiana, completed in 1947, cost approximately 1½ million dollars. A new mill of that size would cost about 4 million dollars today, and earnings from such a mill would not result in a return on investment equal to current interest rates.

The New Orleans Bank for Cooperatives, which has had 24 years experience in financing the construction, rehabilitation, and operation of Louisiana cane factories, says the construction of a new cane factory under present conditions is apparently impossible. Those already in the business are caught — caught in a cost-price squeeze, and must explore every possible way to avoid being squeezed out of business.

The Louisiana sugar industry has made adjustments to meet the situation we are in. Some of the adjustments have been rather drastic. For instance, we had 59 cane factories in 1948 and there are only 47 now. That's an average of 1 factory quitting per year. This unfortunate reduction in number of factories was some benefit to the remaining factories which were able to increase the volume of cane they grind. Cane processing, like most other enterprises in this country, has become a large-volume business. You can make reasonable profits only if your volume is big enough. The break-even point on volume has been gradually increasing, and that trend will likely continue.

In the last few years there has been a significant improvement in the efficient use of labor in Louisiana cane factories. We are using less labor per ton of cane ground.

In general, the machinery and methods in Louisiana cane factories are better than they have ever been. Many factories are making further improvements this year in preparation for the next grinding season.

I want to say something for the benefit of the visitors here today who may not be very familiar with the Louisiana sugar industry and who may be misled by some of the discussions of our problems. The Louisiana sugar industry is not unstable. It has been here about 160 years, and I believe it will be here when all of us are dead and gone. The industry *did get* in serious trouble in the 1920's because of some cane diseases, but now we have an excellent research program to prevent that from ever happening again.

A dependable supply of bagasse is produced every year in Louisiana. Bagasse production will increase in the future. Federal sugar legislation under which we operate permits us to expand our cane production in proportion to increases in sugar con-

umption. Sugar consumption will increase in proportion to population growth because per capita sugar consumption is about as constant as anything we consume in this country. We ave no doubts that we will be *able* o increase cane production. A modrate increase can be made in acrege devoted to cane, and a big exansion recently made in our variety evelopment program will certainly esult in larger cane yields per acre n a few years.

It seems to me that the reduction n number of Louisiana cane factories night be significant to those persons r firms exploring the possibilities of sing bagasse. The smaller number f mills means a greater concentraion of bagasse at fewer points.

More than half of Louisiana's bagsse production is still being burned s fuel. Bagasse is not a waste prodct because it has a definite value as uel. Since we can readily substitute natural gas for bagasse as a fuel, it s logical that we should search for ther uses for bagasse—uses which vill result in a value of bagasse reater than its fuel value. I hope rogress in that direction is made ere today.

———o———

UP FRONT

(Continued from page 200)

very informative report.

"Last weekend, the Cuban Governnent announced details of its agrarian reform program. The announcenent had an electrifying effect in he sugar world. Many wondered to vhat extent their property rights in Cuba would survive. The fine print n the new law is still being scrutinized by leaders of the sugar indusry and their legal staffs. A full interpretation has yet to be made, but hese seem to be the law's main provisions:

"1. No one person or company will be permitted to own more than 999 acres of farmland. (In ranchland, the ceiling of individual ownership is higher at 3,333 acres.)"

"2. Any land holdings over and above this limit will be taken over by the Government for redistribution to the landless. The owners will receive compensation in the form of 4% Government Bonds, in an amount based on the property's tax valuation before October 10, 1958. (Owners feel this verges on confiscation, because the basis of land valuation is far below recent market prices.)

"3. No cane plantation can be operated by foreigners or by stock companies *any* of whose shares are foreign owned. (This will principally affect those U. S. sugar interests having extensive Cuban holdings.)

"4. All mill owners must divest themselves of caneland holdings within one year . . . unless they prefer to give up their mills. No one will be permitted to remain simultaneously a mill owner and an owner of cane yielding land.

"5. Sugar mills have 90 days with which to comply to the new law, or face expropriation of their land and cancellation of their sugar quotas.

"The reaction was inevitably one of shock in all quarters. Many were soft-spoken in their criticisms, waiting to fully assess the law, and examine the possibility of its modification.

"Some published comments expressed very marked displeasure. Others appeared for greater moderation in the execution of the law, and adequate indemnification of property owners who fall victim to it. An editorial in the New York Times on Wednesday noted that the world has seen a great many reforms of this kind—in Japan, in Taiwan and Indo-China, Mexico and Puerto Rico, etc. According to the Times it would be generally acknowledged that agrarian reform was overdue in Cuba, it is also accepted international law that a sovereign nation has the right to take over property. The one justifiable demand is for adequate, just and prompt compensation. This will

(Continued on next page)

be the real test of the Cuban reform, and all one can say today is that there are doubts that the new law fulfills this requirement.

"In a widely publicized television appearance last night, (May 21st) Premier Castro stated that the agrarian reform bill would become law without any modifications.

"The Council of Ministers—now meeting in Cuba—has the authority to amend the new law. Today's N. Y. Times mentions 'A report circulated in Presidential Palace circles during the day that the Government was preparing to back away in some degree from the drastic term of the agrarian law . . . ' Others say any optimism of this sort is based more on hope than on reality.

"In all quarters, there must be concern as to what effect the land reform will have on Cuba's sugar production, Cuba's economy and Cuba's international position. The Association of Sugar Mill Owners and the Cane Planters Association met yesterday in Cuba and expressed opposition to the new law. Some speakers said it would bring ruin to the economy. Others feel the outlook is not so bleak. But there is a considerable body of opinion that believes the long-term effect on Cuban production will be adverse. Not this year with production almost over, probably not next year either . . . but quite possibly in 1961 and 1962 . . . According to one trade source, few people, native or foreign, are going to invest any more money in cane planting until they are reassured about the impact of new law . . . "

Meet June 4th

The Summer Meeting of the American Society of Sugar Cane Technologists will be held in the American Legion Hall, Thibodaux, La., on Thursday, June 4th beginning at 9:30 in the morning.

Lester G. Davidson, Secretary-Treasurer of the Society, has advised us that the Hall is air conditioned, and that an excellent lunch will be served there at noon.

The cost of the noonday meal wi be only a dollar and a half. Th Agricultural Section will meet in th morning and the Manufacturing Se tion in the afternoon. The planne program is as follows:

Morning Session

Progress of Chemical Weed Contr For the Past Ten Years.
by Ernest Stamper.

Effect of Chlorinated Hydrocarbon and Organics on Other Crops.
by Dale Newsom.

New Concepts of Soil Classificatio in the Sugar Cane Areas.
by D. L. Fontenot.

Afternoon Session

Pan Circulators.
by W. T. Abercrombie, Jr.
Jackson Industries, Inc.

Technological Advancements in Re powering Mills.
by Joe Dove and Glenn Jorn
Western Gear Co.

Refractories.
by a Representative of Mexic
Refractories Co.

Plant Physiologist

The American Sugar Cane Leagu is trying to make it possible fo Louisiana State University to em ploy a plant physiologist to work with sugar cane. With this objective Mr. Malcolm Duhe, who is Chairma of the League's Contact Committee has written the following letter t State Representative J. Allen Daigre of Iberia Parish.

Dear Mr. Daigre:

This is with reference to ou conversation of several days ag in which you agreed to introduce a bill in the current session of the Legislature which would appropri ate funds to L.S.U. for the purpose of conducting sugar research in the field of Plant Physiology. In ac cordance with your request, I am enclosing a draft of the bill which would appropriate $22,000 for the fiscal year 1959-1960. This is the amount of money which University officials advise us will be neces sary for the first year's operation of a plant physiology research pro-

SUGAR MARKET STATISTICS THROUGH MAY. 25, 1959

	Today	1 Month Ago	1 Year Ago
QUOTA RAWS DELIVERED NEW YORK	6.30	6.25	6.30
QUOTA RAWS DELIVERED NEW ORLEANS	6.26	6.21	6.27
RESIDUAL SPOT RAWS (In Cuba)	2.92	2.90	3.55

SUGAR FUTURES No. 6
(Closing Bid Prices)

	July	Sept.	Nov.
Today	5.83	5.85	5.87
1 Month Ago	5.77	5.81	5.82
1 Year Ago	5.79	5.79	5.78

OFFSHORE RECEIPTS AT NEW ORLEANS
(Long Tons, 2,240 lbs.)

	Apl. 25 May 25 1959	Apl. 25 May 25 1958	Jan. 1 May 25 1959	Jan. 1 May 25 1958
American	41,452	27,588	167,949	168,610
National (Godchaux)	19,305	24,401	62,863	80,465
Colonial	24,153	10,893	56,206	83,783
Henderson	16,445	9,414	54,660	45,554
Southdown	16,651	9,702	39,520	19,953
South Coast	10,100	5,510	30,758	21,508
Supreme	24,128	9,083	58,771	29,158
Totals	152,234	96,591	470,726	449,031

ject on sugar cane.

L.S.U. does not now have, and has never had a plant physiologist working on sugar cane. In our opinion this is an extremely regretable situation, because plant physiology research is a large and relatively unexplored field which offers tremendous possibilities. I have listed below some of the objectives which we believe a plant physiology research project on sugar cane would work toward:

a. Increases in yields of sugar cane by the use of chemicals which speed up the metabolism of the plant.

b. Increases in germination of planted sugar cane by the use of chemicals.

c. Increase in germination of eyes in stubble crops of sugar cane by the use of chemicals.

d. Increase in sucrose and purity of sugar cane by the use of chemicals.

e. The killing of green leaves of sugar cane prior to harvest to remove trash. There are new experimental materials constantly coming on the market that need testing. One of these is showing some promise now.

f. Use of hormones or growth substances in conjunction with the use of weed killers. It is known that young, fast growing, succulent growth is more easily killed by herbicides than slow growing plants.

g. The use of hormones to synchronize flowering of varieties to be crossed in the breeding program.

Your cooperation is greatly appreciated.

Since receiving the letter from Mr. Duhe, Mr. Daigre has introduced House Bill No. 186 which reads as follows:

To appropriate the sum of Twenty-Two Thousand ($22,000) Dollars out of the General Fund of the State of Louisiana for the fiscal year 1959-1960 to Louisiana State

(Continued on next page)

University and Agricultural and Mechanical College for plant physiological research on sugar cane.

Be it enacted by the Legislature of Louisiana:

Section 1. The sum of Twenty-Two Thousand ($22,000) Dollars is hereby appropriated out of the General Fund of the State of Louisiana for the fiscal year 1959-1960 to Louisiana State University and Agricultural and Mechanical College to be used in conducting sugar cane research in the field of plant physiology.

Section 2. All laws or parts of laws in conflict herewith are hereby repealed.

Leon J. Landry

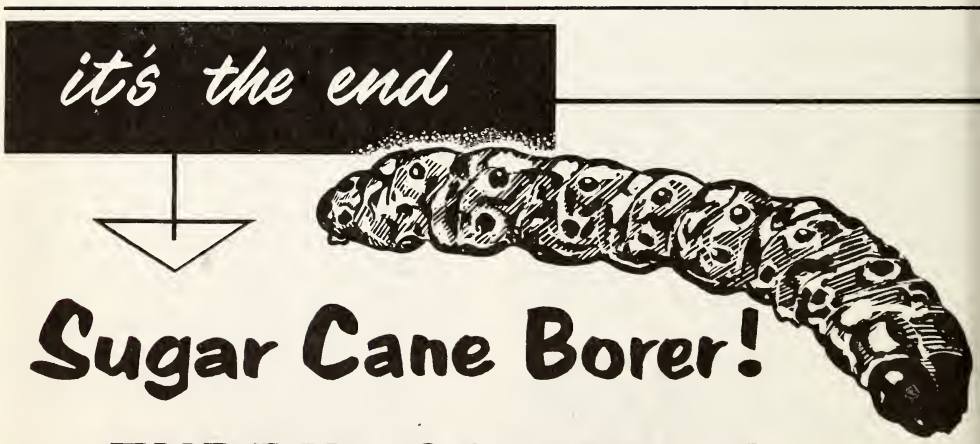
Another prominent member of the Louisiana sugar family has passed away and it becomes our unpleasant duty to record his passing. Leon J. Landry, President of the Iberia Sugar Coop.; President of the Rural Electrification Association; League member; Farm Bureau Member; civic and political leader and go friend, died on May 16th after a pi longed illness. He was 76 years o

The members of the Executi Committee of the American Sug Cane League met in New Orleans May 27th and adopted a resoluti about Mr. Landry which we print b low.

Whereas—The Louisiana Sugar I dustry, and especially that part the sugar belt known as the "Weste Section", lost one of its most disti guished citizens on May 16, 19 when Leon J. Landry, age 76 yea was called to the great beyond, a

Whereas—Mr. Landry was n only active in the affairs of Louis ana sugar, but also took a promine part in the upbuilding of the comm nity in which he lived through h active participation in the busines civic and cultural activities of t Bayou Teche area, and

Whereas—He served as a membe of this Executive Committee until h was prompted by ill health to as that he be allowed to forego the ri



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MONROE, LOUISIANA

rs of the long trip to New Orleans
o attend our meetings, and

Whereas—Leon J. Landry took a
eading part in the critical beginning
f the American Sugar Cane League
n building this organization to the
lace of prominence among the world
ugar organizations that it now en-
oys, therefore

Be It Resolved—That we, the mem-
ers of the Executive Committee of
he American Sugar Cane League of
he U.S.A., Inc, convened today in
Executive session for the first time
ince the passing of our friend, do
ereby record our official recognition
f the loss that our industry and com-
unity have suffered because of the
eath of Leon J. Landry and do also
e-affirm the expressions of sym-
athy that we, as individuals, have
reviously conveyed to the family of
he deceased.

Be It Further Resolved—That this
esolution be made a part of the min-
tes of this meeting, and copies of it
orwarded to the family of Mr. Lan-
ry.

—o—

N WASHINGTON

(Continued from page 201)

ng the revolution and the money was
o be used to pay expenses of the
evolution, but there is a growing de-
nand in Cuba business circles that
he "July 26th Movement" furnish
n open accounting of how these tax
unds are being expended. They point
o the newly painted sign in almost
very government ministry which
roclaims "Honesty" and hope that
his will become an accepted rule.

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UP FRONT WITH THE LEAGUE

by A. W. Dykers

The Old Mule

We don't know how you folks feel about such things but, personally, we never deliberately stir up the gremlins. We do not walk under ladders, or fool around with black cats, or throw hats on beds, and stuff like that. We never deliberately look at a new moon over our left shoulder, and we wouldn't think of buying a broom in August, or opening an umbrella in the house. All these things are bad luck, so why take a chance!

Lately, we have added another never to our list. We never talk about the Old Mule when he is headed in the right direction. So let's just ignore the fact that, despite all the wild talk coming in on that strong east wind, our critter is holding his own. Isn't it lucky he doesn't *habla Espanol?*

Growers Elect

In the May 15th issue of *The Sugar Bulletin* we called attention to the fact that meetings of cane farmers had been scheduled, under the auspices of the Louisiana State Agricultural Extension Service, at the boarding house of the Meeker Sugar Cooperative on June 1st; at the American Legion Hall in White Castle on June 2nd, at the Agricultural Building in Thibodaux on June 2nd, and at the Parish Court House in New Iberia on June 3rd, to elect the grower members of the Grower-Pocessor Committee (not a committee of the American Sugar Cane League). The meetings were held at the appointed time in the appointed places and the balloting resulted in the election of the following gentlemen as the grower representatives on the Grower-Processor Committee:

From Area #1, (Avoyelles, Rapides and St. Landry Parishes) Sterling C. Bain of Bunkie, member, and Thomas S. Klock, of Alexandria, alternate.

Area #2 (Pointe Coupee, West Baton Rouge, St. James, Iberville, Ascension, St. John, and St. Charles Parishes) Clifford LeBlanc, of White Castle, and Richard Glynn, of Ventress, members, with Ed. J. Schexnayder, of Bayou Goula as alternate.

Area #3 (Assumption, Lafourche and Terrebonne Parishes) J. J. Shaffer, Jr. of Ellendale, and John J. Tregre, of Napoleonville, members, and Fernand Price of Thibodaux, alternate.

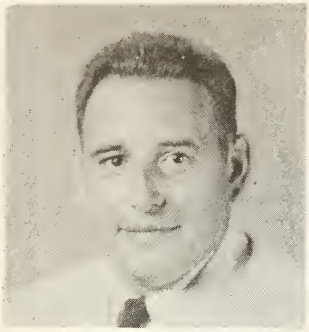
Area #4 (St. Mary, Iberia, St. Martin, Lafayette and Vermilion Parishes) F. M. Burley, of Lafayette, and Ulysse Gonsoulin, Jr. of New Iberia, members, with P. J. deGravelles, Sr., alternate.

The newly elected growers held an organizational meeting in Thibodaux on June 5th and elected J. J. Shaffer, Jr. to serve as their Chairman.

The Processor segment of the Grower-Processor Committee is composed of J. J. Munson of Houma, Chairman; T. M. Barker of Lockport; Irving Legendre, of Thibodaux; J. P. Duhe, of New Iberia: E. W. McNeil, of Cinclare; C. S. Churchill, of Donaldsonville; and P. L. Billeaud, of Broussard.

Serving as alternates for the Processors are J. N. Foret, Jr., of Supreme; Bronier Thibaut, of Napo-

(Continued on page 222)



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

Come To The Houma Contact Meeting Tuesday, June 23

Every year about this time the scientists of the U.S.D.A. Houma Station prepare reports on the work conducted during the past year for presentation at the Annual Houma Contact Committee meeting. The meeting will be held at the Houma Station Tuesday, June 23 beginning at 9:30 in the morning.

Dr. E. V. Abbott, Superintendent of the U.S.D.A. Station, and Mr. Malcolm Duhe, Chairman of the Contact Committee invite all sugar cane growers to attend this important and informative meeting. A program covering all phases of research, including an up-to-date report on the mosaic disease situation in the State will be presented.

Growers should be interested to hear reports of the expanded cane breeding program of the U.S.D.A. More than one and one half million seed were produced last year. It is well to remember that each seed produces a separate and distinct variety. In this connection growers will hear of two new structures being completed this year which should certainly help the cane breeding program. One of these structures is a cane breeding house 200 feet long at Canal Point, Florida, the other is a new greenhouse at the Houma Station 100 feet long to germinate and grow the many thousand good quality new seedlings now being produced.

Growers will be interested to hear how the commercial varieties performed in the test fields last year. These tests should help all growers plan their variety program. These tests are planned and conducted t be as accurate as possible. These ar not one plot tests. Replications ar used and all plots are carefull weighed.

Even though the harvest season i far away, growers will want to lear more about the quality of cane unde different harvesting and handlin conditions. A report on a new chem ical which has shown some promis for drying cane leaves to effect a better burn at harvest time should b interesting to growers.

Come in and hear the experts tel how to control the sugar cane borer Hear, first hand, the general bore situation in the sugar belt. Learn more about Endrin and other chem icals now under test. Ask questions the entomologists will welcome them

Mosaic disease is spreading. The disease is showing up in many o the commercial varieties in severa areas. The County Agents are hold ing mosaic clinics to teach growers how to identify and control the dis ease. The mosaic disease report will tell of the research being conducted to control this disease. The report will also include information on a recently discovered strain, varieties which are susceptible, and general information that will be of help to every grower present. It must be forever remembered that this disease played a major role in the complete breakdown of varieties grown in the early and middle 1920's. Growers must take this disease seriously.

Growers are always interested in fertilizer experiments. Recently some

(Continued on page 220)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Senator Allen J. Ellender of Lousiana, said he is "still of the opinion hat the Congress should act favorbly on Legislation extending the sugr Act before adjournment this year. 'Action on sugar legislation" Senator Ellender said, "must, of course, orginate in the House of Representaives, and I indeed hope that the House Committee on Agriculture, vhich is charged with considering ugar legislation in that body, will oon be in a position to favorably reort a bill. I realize and appreciate hat numerous problems are involved, ll of which flow from certain wellknown international complications vhich have arisen in Cuba, the largest non-domestic supplier of sugar o the United States. Developments n Cuba made it impossible for appropriate agencies of the executive branch, specifically, the Department f Agriculture and the Department f State, to come into agreement on vhat course new sugar legislation hould take, and unless such agreement is achieved, the task of Congressional committees which must recommend such legislation is gravey complicated."

On June 10 the State Department nstructed its embassy in Havana to dvise Fidel Castro that his recent offer to sell the United States 8,000,000 tons of sugar in 1961 could not e considered by that Department. The State Department reported, "the procurement of sugar for consumption in the United States is made hrough private trade channels, and ot through governmental agencies, nder quotas established pursuant to the Sugar Act of 1948 as amended. We do not know whether private enterprises would be interested in entering into purchase contracts that far in advance for sugar not yet produced.

"There is no reason for assuming that the United States will need as much as 8,000,000 tons of sugar from Cuba in 1961. Current total requirements of our country are estimated at 9,200,000 short tons raw value. Of this 4,912,000 are to be supplied by domestic areas, 980,000 by the Republic of the Philippines and 248,000 by full duty countries. The current quota from Cuba amounts to approximately 3,060,000 tons. Our consumption appears to be increasing at the rate of about 150,000 tons per year.

"Although the present sugar legislation extends only through 1960, the Executive Branch of the Government could certainly not make any recommendation to the United States Congress it enact new legislation that would either destroy the domestic sugar producing industry or prohibit imports from foreign countries other than Cuba."

Senator George Smathers, of Florida, may seek a change in the Sugar Act to permit the Secretary of State to reduce a foreign country's share of the United States sugar quota, if the country denies fair treatment to American nationals, or our commerce, navigation or industry.

Speaking before the Sugar Club at a dinner in New York, June 2nd, Senator Smathers said that recent developments may make it impractical to extend the Sugar Act in its

(Continued on page 220)

ENDRIN FOR SUGARCANE BORER CONTROL
A LOOK INTO THE FUTURE

by Dr. L. D. Newsom

A revolution in control of insects occurred a little over a decade ago when the chlorinated hydrocarbon insecticides were introduced. Use of such materials as DDT, BHC, toxaphene, chlordane, aldrin, dieldrin, heptachlor and endrin, followed by the organophosphorus compounds, parathion, malathion, methyl parathion, demeton, diazinon, thimet, Korlan and Co-Ral and more recently by the carbamate Sevin, has allowed for the effective and economical control of many important insect pests which formerly could not be controlled at all. Other pests have been controlled more effectively and economically with these new insecticides.

Until 1954 when chlordane was first recommended for control of soil pests in heavy soils, none of these newer insecticides had found a place in sugarcane insect control. Nearly all of the materials listed above have been tested during their development for control of the sugarcane borer. None had proved to be effective enough to justify their being used until the development of granular formulations of endrin. Beginning in 1958 with the recommendation and use of endrin for control of the sugarcane borer, a new era in the control of this pest has begun. I have been asked to discuss what we may expect from the widespread use of this potent new insecticide on sugarcane.

It should be emphasized at the beginning of such a discussion that the course of future events can never be predicted with certainty. Not being clairvoyant, what I shall have to say to you on this subject must be considered as being speculative. However, by study and evaluation of past events the course of future events may often be projected with a reasonable amount of accuracy.

Widespread use of these newer organic insecticides on other crops has not proved to be an unmixed blessing. Many of these materials are known to be highly toxic to the human being. There have been deaths caused by exposure to some of them. Parathion especially has caused several deaths. In general, the chlorinated hydrocarbons are not especially hazardous from the standpoint of toxicity to the human being. However, endrin is one of the most toxic of this group of insecticides and must be handled carefully. If reasonable care is used in handling it, we may expect no trouble. The granular formulation is relatively non-hazardous. About 400,000 pounds, equivalent to about 2,000,000 pounds of 2 per cent granules, have been used on cotton in Louisiana since 1953, much of it as the comparatively dangerous emulsifiable concentrate, with no trouble.

Many of these newer insecticides are hazardous to wild life. The chlorinated hydrocarbon insecticides generally have proved to be especially toxic to fish. Endrin is certainly one of the most potent of these. It will kill many species of fish at concentrations of 0.00003 ppm. It is also known to be quite toxic to mice and is recommended in the apple orchards in many states for the control of meadow mice at the rate of 2 pounds or more per acre. Sugar cane will receive 1 pound of the technical material per acre per year. Certainly four applications at ¼ pound per acre per application spread over a 2 month period are not as potentially hazardous to wild life as 2 pounds applied in one application. Nevertheless, we may reasonably expect some kill of wild life in cane fields and certainly large fish kills may be expected unless applications are made very carefully.

One point upon which information is lacking is whether heavy rains will move enough of the material into

treams to cause trouble. Past experience must be depended upon at his time for an answer. Experience ained from several years of heavy se on cotton indicates that there will e no trouble except from direct application or drift to bodies of water.

Residues of insecticides on food rops are no more of a problem with he newer insecticides than with nany of the older materials. For xample, cryolite and DDT have bout the same tolerance on most ruits and vegetables. Ryania does ot require any restrictions of residues on food crops since it is considered to be relatively non-toxic to nan. In spite of its relative toxicity, ndrin is generally recommended for control of vegetable pests such as abbage caterpillars and aphids, flea eetles, cutworms and Colorado potato beetles.

One of the most serious problems which has arisen from the use of hese new insecticides has been biological upsets which have resulted in ncreased injury from various pests; r, pests which were injurious only ccasionally have caused injury more requently. Destruction of predators nd parasites has often allowed minor ests to assume major importance. For example, spider mites have apparently become of greater importance in a worldwide scale since these insecticides were introduced. The red banded leafroller has become a major pest of apple in some areas; the bollworm has become an annual pest of cotton rather than an occasional pest; and finally, we are all aware of the effect of the fire ant program on sugarcane borer infestations last year.

At the same time that previously unimportant pests have become important following use of these materials there are a number of examples where their use has resulted in major pests becoming of no significance. For example, the cotton leafworm which was responsible for the use of more insecticides than any other cotton pest prior to 1945 is no longer of any significance in the United States.

Predaceous and parasitic insects are of vital importance in the control of insect pests. On crops where they are effective full use should be made of these natural control agents. However, many of our pests are not effectively controlled by predators and parasites. The sugarcane borer in Louisiana is one of this group. During the period 1935-58 losses to the sugarcane borer have ranged from 4 to 20 and have averaged 13 per cent. This is rather expensive sharecropping with an insect pest.

Last year in areas involved in the fire ant eradication program an estimated loss of 48 per cent of the crop occurred in fields which were not treated at all or where ryania was used, where *Trichogramma* were liberated, or where ryania and *Trichogramma* were used together. In the same area but outside of the fire ant treatment zone this loss amounted to an estimated 33 per cent of the crop. In other words, the loss in areas expecting a 20 ton crop per acre amounted to an estimated 9½ tons where the fire ant treatment caused an upset in natural control, but 6½ tons were lost in the same locality where no fire ant treatment was made. It is obvious that parasites and predators have not done an effective job of controlling the sugarcane borer in Louisiana. Over 6 tons of cane per acre is a high price to pay toward maintaining "natural balance."

The usual idea of nature being in balance is a popular myth. The fallacy of this popular misconception is well illustrated by examples provided in the geological record. Paleontological studies have provided a history of a continuous succession of plants and animals which have come into existence, flourished for a while, and then become extinct. It is true that forces are at work which constantly strive to bring about a balance in nature. However, it is man's ability to keep nature so far out of

(Continued on next page)

balance that makes it possible for us to have all the material possessions which have become so important to society today. It is man's ability to keep nature out of balance which has permitted the population in this country to increase from about one million people eking out an existence in what might be termed a balanced environment to over 175 million plagued with excess production of food and fiber. This tremendous population growth has taken place in about 3 centuries. It is obvious that nature must be thrown even more out of "balance" if this rapidly increasing population is to be adequately fed and clothed.

The idea has been expressed that once endrin is used in a field it will have such a drastic effect upon predators and parasites of the sugarcane borer that control measures will have to be applied every year afterward. Certainly endrin will destroy many more of these beneficial insects than ryania. Our data so far show that it has little effect on *Trichogramma* but it has reduced the populations of a complex of suspected predators of sugarcane borer about 50 per cent. It could be that use of endrin will allow some hitherto unknown potential pest of sugarcane to develop into an important pest. However, the same possibility existed when cryolite and ryania were first used, or when any insecticide is first used commercially. All insecticides must be capable of upsetting the so-called balance of nature or they would not control any insect.

Experience with cotton does not lend basis to the idea that once endrin is used a powerful insecticide must be used every year thereafter in steadily increasing amounts. After more than 10 years of use of chlorinated hydrocarbons in Louisiana many growers in North Louisiana were able to make a crop in 1958 without finding it necessary to make more than two or three applications of insecticide. Had they been willing to contribute 10 to 15 per cent of their crop to insects, it would n have been necessary to use any i secticide.

The expression "we don't wan what has happened in cotton to ha pen to cane" has been heard fr quently during the last few year It would be most instructive for thos who have expressed this thought t discuss the matter with cotton grow ers. It is safe to say that not a hal dozen cotton growers in Louisian would turn back the clock in insec control to calcium arsenate, nicotin sulphate and sulphur. The sam thing will prove to be true in cane.

Use of insecticide on cotton durin the last decade has increased tremen dously, not because of any upset o natural balance, but because of th spectacular results achieved. In 194 it was difficult to find enough grow ers to cooperate in experimenta work. They did not believe insect could be controlled economically. Fo the past several years our greates difficulty has been in trying to con vince them that they are using abou twice as much insecticide as is ac tually needed. Instead of consider ing insecticides as a tool to use in protecting the crop when populations of insects become numerous enough to cause damage, many cotton grow ers have come to consider an insecti cide in much the same manner as they think of a fertilizer. Obviously this is a serious mistake. Insecticides should be applied only when pests are present on a crop in numbers enough to cause damage.

Increases in yields resulting from the use of these insecticides have been so spectacular it is easy to understand why growers have used far more of them than has been necessary to control pests efficiently. For example, a study just released by the U. S. Department of Agriculture shows that yields from treated plots in tests in Central Texas have been 53 per cent greater than from untreated plots since 1945 when the first chlorinated hydrocarbon was introduced. Prior to 1945 when the in-

rganic insecticides such as the arenicals and sulphur were used, increases in treated plots compared to ntreated plots amounted to 34 percent. The tremendous increase in se of insecticides for cotton insect ontrol has come about because of heir effectiveness. Growers are conrinced that these new materials reurn a profit when used. This was ot the case with the inorganic inecticides.

Development of resistance to the ewer insecticides has been one of he most troublesome aspects of their se. The number of insects which ave become resistant to one or more nsecticides increases steadily. It is ntirely possible that the sugarcane orer may become resistant to endrin fter several years of exposure. This would not be surprising at all. What would be greatly surprising would be he occurrence of a course of events which has been rather freely predicted by a number of individuals. These predictions, arrived at by some extremely curious mental gymnastics, would have the sugarcane borer becoming resistant to endrin while at he same time all predators and parasites would be eradicated. This is louble standard thinking developed o a high degree. First of all, there is just as much chance of eradicating he sugarcane borer as there is of eradicating any of its parasites and predators. It is safe to assume that neither will be eradicated. Secondly, he same selective forces exerted by endrin on the sugarcane borer which might result in its becoming resistant to the material are operating in he same manner on parasites and predators and may just as reasonably be expected to develop resistance in hese species.

Even though resistance in these nsecticides has developed in many pests, effective and economical conrol measures are still available for hem all. For example, we have for his season the most economical program that has ever been developed for control of the boll weevil in spite of the fact that it has become highly resistant in many areas to the chlorinated hydrocarbon insecticides.

To refrain from using endrin on the grounds that the sugarcane borer may become resistant to it, is analogous to growers not using 44/101 when it was first recommended because of the possibility that such a new variety might some time in the future become susceptible to mosaic, as indeed it has. Further analogies could be drawn. For example, use of penicillin has had some undesirable side effects. Actually a number of deaths have been reported following its use. How many of you would like to withdraw use of penicillin from the medical profession?

It is true that the newer insecticides have created some problems. It is equally true that for each problem they have created they have solved dozens of far more importance to humanity. By the use of these materials it has been possible to control pests for the first time in our history effectively and economically. They have also made it possible to demonstrate for the first time that insects not known to be of any importance are actually important pests. Their use has almost completely eliminated malaria from many areas of the world, including the United States; typhus and bubonic plague are no longer the threats to our existance that they were formerly. Many similar examples could be cited.

With this background of the possible negative aspects we may speculate on what may be expected from the use of endrin for sugarcane borer control. First, we may confidently expect far more efficient and economical control than has been true in the past. For the same expenditure we will get more efficient control of two generations than has been possible for one generation.

With a more efficient, economical program more growers will adopt control of the sugarcane borer as a standard practice. Obviously our

(Continued on next page)

recommendations in past years have not been accepted by enough growers. Records of sales of ryania and cryolite allow rather accurate estimates of the acreage which has been treated from year to year. This has amounted to not more than 50,000 acres in any one year treated with 4 applications for control of the second generation only. One of two conclusions may be drawn from such records. Either recommendations are not adequate to obtain grower acceptance, or the pest does not cause enough damage to justify application of control measures. Since an average of about 13 per cent of the crop has been lost to sugarcane borer during the period 1935-1958, the obvious answer is that previous recommendations have not been acceptable to the majority of the growers.

Two potentially serious pests of sugarcane have been moving steadily toward the sugarcane belt. The European corn borer and the southwestern corn borer at the end of last year had both moved to within a few miles of large acreages of sugarcane. Both of these pests were found as far south as Natchitoches Parish on the west, and the European corn borer as far south as Tensas Parish on the east side of the state. At the rate they have spread since entering Louisiana, both may be expected to enter Rapides, Avoyelles and Pointe Coupee Parishes this year. How serious they will be on sugarcane is not known. Endrin is a highly effective insecticide for the control of both species. If they prove to be pests of sugarcane, an effective, proven insecticide already recommended for their use will be in use on sugarcane in a schedule of applications which would probably require no alteration for effective control of all three species.

The effectiveness of endrin has made it possible to extend the interval between applications to two weeks. This makes it possible for ground equipment to be used. With a few days leeway in application dates the problem of getting ground equipment through muddy fields is no longer nearly so acute. Use of ground machines will afford the small grower an opportunity which he has not had in the past because airplane applicators have not been interested in the 10 and 20 acre crop.

Since it is necessary for airplane swaths to be marked when granules are being applied, more uniform efficient application may be expected from airplane applicators.

More uniform growth can be expected where endrin is used. This was remarkably evident last season and results from more effective control. Greater uniformity in growth will allow for more efficiency in harvesting and less carryover of the borer.

Endrin will prove to be especially valuable in seed increase programs. There will be no restrictions on its use on cane grown for seed and applications may be made up to harvest. In this way seed cane virtually free of borer infestation may be produced.

By using endrin for sugarcane borer control it will be possible to use canes much more susceptible to borer injury than has been possible in the past. However, this is not a sound practice and increased emphasis should be placed on borer resistance in breeding programs. Along the same line, use of endrin will permit growers to be less dependant upon cultural practices for borer control. It should be emphasized however, that this is not a miracle working insecticide and it is strongly recommended that growers adhere rigidly to use of resistant varieties and cultural practices as an integral part of their borer control program.

Because of its effectiveness and economy, many growers will be tempted to begin a more or less "automatic" schedule of applications. It cannot be emphasized too strongly that insecticides are wasted if applied to a crop on which pests are not present in damaging numbers.

(Continued on page 220)

SIMPLEX TWIN

Positive Placement Applicator Mounted on New Hahn Hi-Boy

Specially Designed for Cane Borer Control

Will Apply Granules or Dust *

- SELF PROPELLED
- ONE MAN OPERATION
- USE IN ANY HEIGHT CANE

- COVERS SIX ROWS IN ONE OPERATION
- CAPACITY OF ABOUT 100 ACRES A DAY

* The New Hahn Hi-Boy will also apply liquids for weed control in cane.

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Phone Keithville, La. 3155

SUGAR MARKET STATISTICS THROUGH JUNE 10, 1959

	Today	1 Month Ago	1 Year Ago
QUOTA RAWS DELIVERED NEW YORK	6.33	6.28	6.25
QUOTA RAWS DELIVERED NEW ORLEANS	6.28	6.24	6.23
RESIDUAL SPOT RAWS (In Cuba)	2.80	2.93	3.43

SUGAR FUTURES No. 6
(Closing Bid Prices)

	July	Sept.	Nov.
Today	5.83	5.85	5.86
1 Month Ago	5.81	5.83	5.85
1 Year Ago	5.78	5.79	5.79

OFFSHORE RECEIPTS AT NEW ORLEANS
(Long Tons, 2,240 lbs.)

	Jan. 1 June 10 1959	Jan. 1 June 10 1958
American	191,371	203,570
National (Godchaux)	80,579	91,827
Colonial	69,205	90,556
Henderson	63,596	54,739
Southdown	44,727	27,095
South Coast	37,377	25,943
Supreme	65,219	41,519
Totals	552,074	535,240

ENDRIN

(Continued from page 218)

Now, more than ever, growers should learn how to check their fields for borer infestation, or they should hire someone capable of doing this service for them.

Finally, it may be confidently predicted that endrin will prove to be the first of a continuing succession of new insecticides, each of which will be more effective and economical than its predecessor.

—o—

IN THE FIELD

(Continued from page 212)

new fertilizers, both solids and liquids, came on the market. This meeting will be a good place to ask questions about these new fertilizers.

An interesting report will be given on farm machinery. Present plans for future research give special attention to the development of a pick-up attachment that would be adaptable to any commercial harvester.

In addition to arranging a very good program Dr. Abbott has also arranged to have a good barbecued chicken dinner. He has made special arrangements through a catering service to serve you under the oak trees of the Station grounds. The price per person for dinner and refreshments will be $1.50 per person.

Come out and learn. Talk to the scientists, and prove to them that the work they are doing is appreciated.

—o—

IN WASHINGTON

(Continued from page 213)

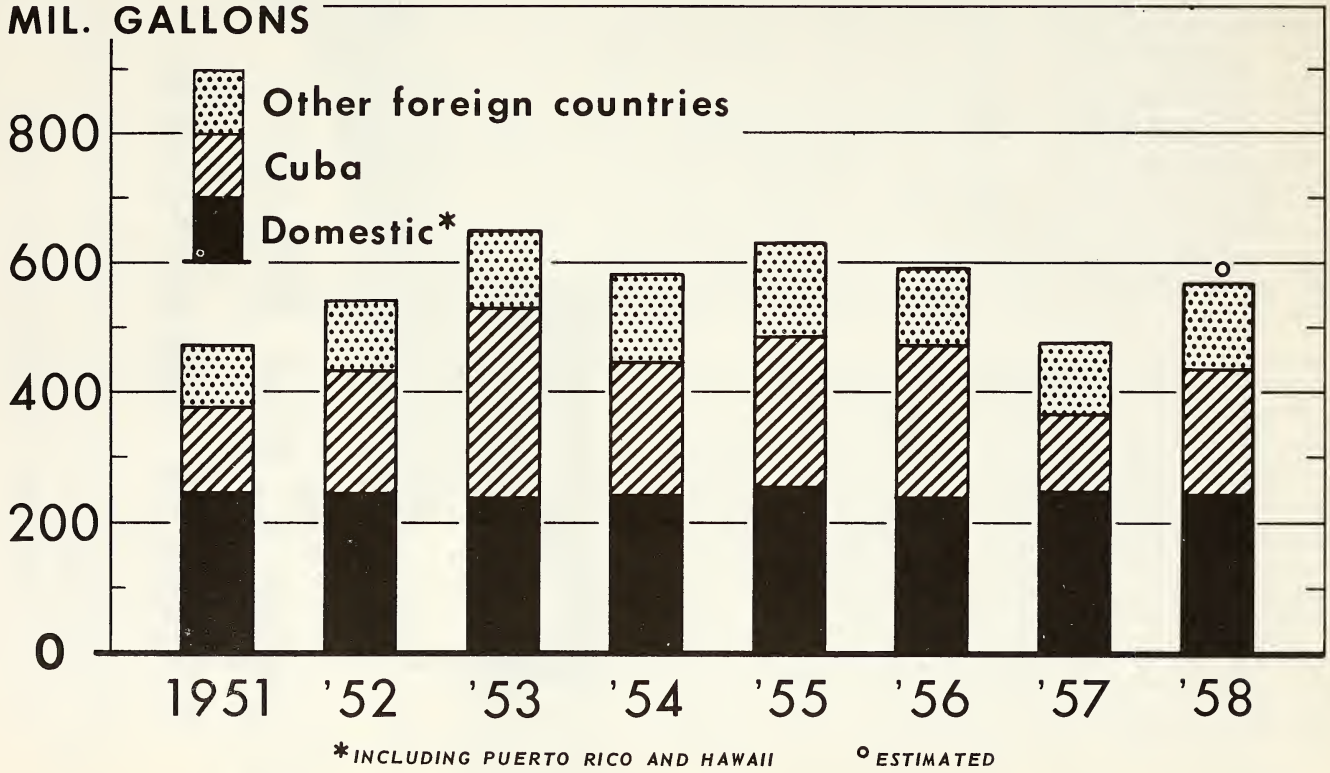
entirety at the moment. He continued:

"Some members of Congress feel it would be wise to re-enact the provisions having to do with domestic producers, but extend existing quotas for foreign producers only one year —making such changes in the existing quota as appear to be necessary.

"This uncertainty as to the advisability of immediately extending the Sugar Act is caused by recent developments in Cuba." He said that Cuba normally supplies one-third of United States needs—about 3 million tons, and pointed out that revolution-

(Continued on page 222)

MOLASSES SUPPLY BY MAJOR SOURCES



U. S. DEPARTMENT OF AGRICULTURE

NEG. 1180-59 (2) AGRICULTURAL MARKETING SERVICE

IN WASHINGTON

(Continued from page 220)

ary activities and labor disputes might cause production to fall short of the 6½ million ton goal set by Prime Minister Fidel Castro's government.

The Florida Senator, a member of the Senate Finance Committee which will review the bill to extend the Sugar Act, said that other Latin American nations with rising sugar production would cast "a covetous eye" on Cuban sugar sales to the United States under a preferential tariff agreement.

The Mexican National Union of Sugar Workers and the National Farm Confederation have announced plans to send a delegation to Washington to ask the United States Congress to expand Mexico's sugar quota. According to information from Mexico City the industry there contends that some countries cannot fill the quotas assigned to them under our Sugar Act, while Mexico has an unsalable sugar surplus.

The Mexican industry would like to have the quota raised by an amou equivalent to 2% of the total Unit States consumption.

———o———

UP FRONT

(Continued from page 211)

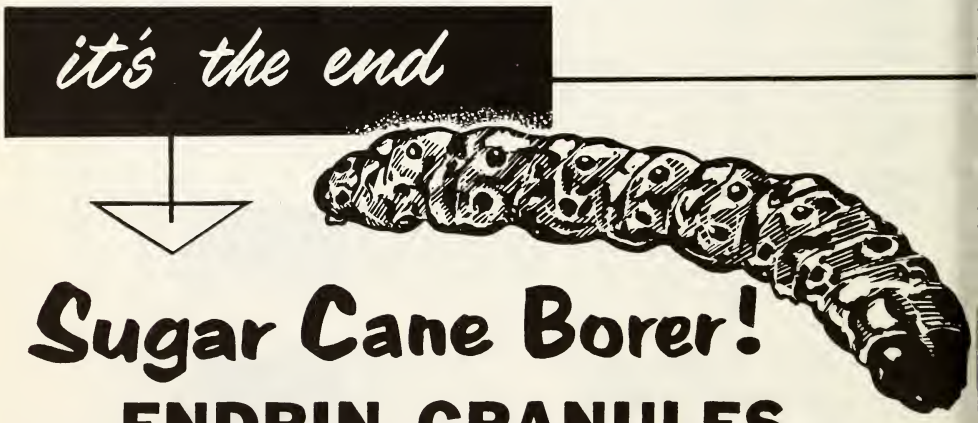
leonville; Don Caffery, of Frankli and Thomas H. Allen, of Frankli

The Processors elected their repr sentatives on the Committee earli in the year. We understand that meeting of the full Grower-Process Committee is scheduled for Ju 15th.

Ernest Burguieres Dies

It is certainly with extreme regr that we record the passing of o good friend Ernest A. Burguiere who died at 1:45 A.M. on Frida May 29th in Touro Infirmary, Ne Orleans, after a short illness. He w 74 ye rs old.

Mr. Burguieres was one of the o ganizers of the American Sugar Ca League. In 1922, when the Loui ana Sugar Planters' Association, t American Cane Growers' Associ tion, and the Producers' and Man facturers' Association consolidat



ENDRIN GRANULES

This profit eater need not be a problem to you. Control Sugar Cane Borer with endrin granules.

Also Aldrin and Dieldrin formulations

Sold & distributed by:

COTTON STATES CHEMICAL CO., INC.

MONROE, LOUISIANA

o form the American Sugar Cane League, he signed the original charter that brought this organization nto being. He was the League's second President.

We could go on and on listing the accomplishments of this man who spent his entire life in Louisiana sugar and who, at one time or other in his long and fruitful career, held high office in practically every one of our industry's organizations.

Suffice it to say that Ernest. A. Burguieres was a leader among men, and that we are happy to have known him. We join with his many, many friends in extending deepest sympathy to his family.

Promotions

It is always nice to learn of the success of our friends and it is, therefore, a pleasure to report news from Cincinnati that E. W. McNeil, who is Vice-President and General Manager of Harry L. Laws & Co., has been elected to the Board of Directors, and that Robert Fraser is now the Vice-President in charge of sales of the big sugar producing and selling organization. Mr. McNeil's headquarters are at Cinclare, Louisiana and Mr. Fraser is in charge of the New Orleans office with headquarters at 126 Carondelet St.

Mr. Robert O. Klausmeyer, of Cincinnati, was also elected a member of the Board of Directors at the annual meeting in Cincinnati on May 21st.

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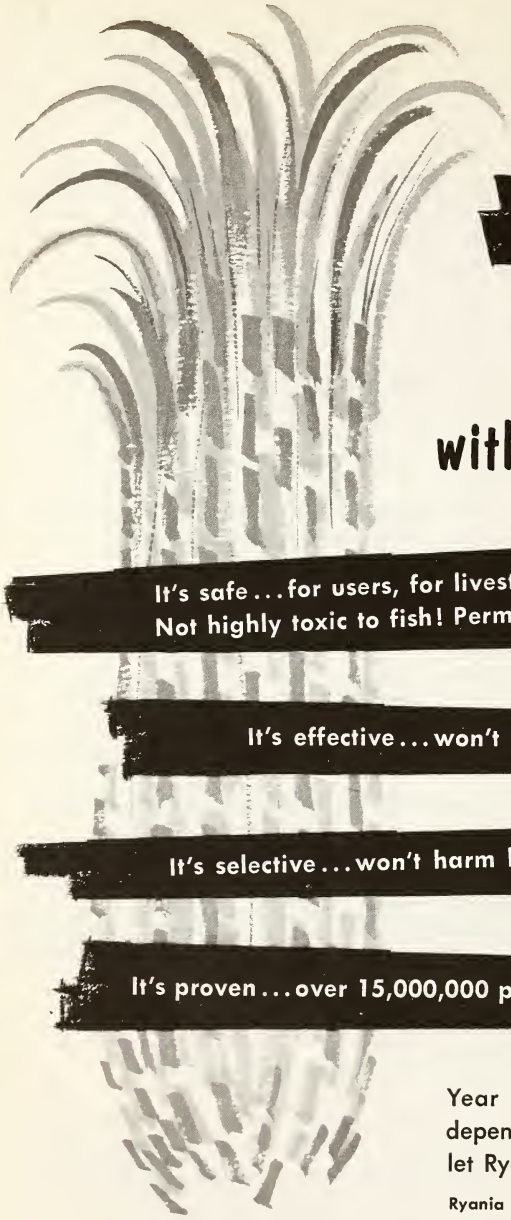

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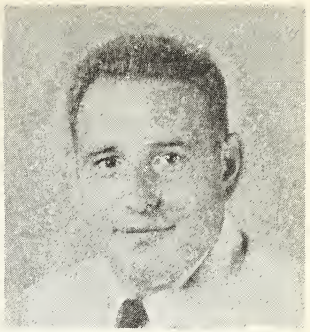
IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden



In spite of the many grassy fields n the cane belt today, because of un- avorable weather conditions for cul- ivation and weed control during May nd June, prospects for a bumper ane crop are good this year. With ew exceptions, plant cane stands are ood. Stubble cane stands are gener- lly good throughout the belt. In act, growers are well pleased with his year's stubble stands even where veak plant cane was harvested last ear. Cane is growing well now and vith favorable weather from now on ut this cane crop can be a real big ne.

The sugar cane borer is out to do ts damage again this year. Accord- ng to reports, the first dusting in he sugar belt this year was done on une 17 in St. Mary Parish. Endrin was the insecticide used. Surveys nade in the sugar belt by representa- ives of Louisiana State University nd the Houma Station during the veek of June 15-17 showed second eneration feeding signs in 34 per ent of the fields sampled. At this ime an average of 2.6 per cent of he plants were infested with young econd generation larvae in fields where recent feeding signs were ob- served. It has also been reported that borer populations were heavier in areas where heptachlor was used last year to control the Fire Ant. Endrin was strongly recommended this year for these areas. Many growers all over the belt made plans to use En- drin this year after seeing the good result of the chemical last year. The entomologist of L. S. U. and the U. S. D. A. have recommended En- drin again this year and more of the chemical is being used this year than last year.

Nutria are spreading to new areas in the belt every year. Unusually large numbers have been reported in Lafourche and Terrebonne Parishes this year. Damages in these areas are substantial. Those who have not seen cane damaged by nutria cannot imagine the extent of damage these pests can do. Large fields can be completely destroyed in a matter of a few days. If in doubt about the damages of these pests, check with Mr. W. E. Peltier and Mr. Murphy Foster and others of Bayou Sale in St. Mary Parish or with Mr. T. M. Barker of Lockport, La. and with Mr. Ruby Thibodeaux of Houma, La. Growers are trying to control the nutria with firearms, with traps and by poison baits. Many thousands have been killed this year, but the pests are still doing a large amount of damage.

Several growers who planned to apply nitrogen in a split application this year were not able to get back into the cane before it became too tall for the second application because of wet weather. A number of plantations in Hawaii apply nitrogen and other fertilizers by airplane to the cane fields. Dr. Rodger Humbert of the Experiment Station, H. S. P. A. told the writer that these plantations applied granular urea by airplane as a source of nitrogen with good result. Dr. Humbert also indicated better ground coverage was received when the material was flown across the rows rather than with the rows.

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Members of Congress, the "top brass" in the administration, taxi drivers and street vendors, have all turned book-makers. In the marble halls of the Capitol, in the plush executive offices, in the cocktail lounges of the city's swankiest hotels, and in the 8th street bistros, you can get odds, at the twinkling of an eye, on how long Fidel Castro will rule Cuba. The bets run from modest 60-cent drinks to millions of dollars, and the time limit given Castro is from two weeks to two years, although there are a few who maintain that Fidel will be a "joy forever"!

It is common knowledge that our government secretly hopes that Castro's days are short. "They" believe that the deteriorating economic situation will undermine Castro's popular support. "When the Cubans get hungry enough they will make short work of Castro", one high government official said. He pointed out that within a few weeks the sugar grinding will end and approximately 200,000 sugar workers will be out of work, along with the half million Cubans who are chronically unemployed. This trained American observer said that Castro's Rent Control law has practically put a stop to new construction in the Island, and is thus depriving another 60 or 70 thousand well paid workers of jobs. He estimates that within another 60 or 90 days more than one third of Cuba's normal labor forces, estimated at approximately 2½ million, will probably be unemployed. "When their wives and children begin to cry for food they will soon make an end of Mr. Castro", the statesman said.

Word from Cuba indicates tha Castro is not unaware of the growin opposition to his administration. H has replaced machine guns on th roof of his palace and restored othe fortifications to insure his persona safety, although a few short month ago, when he moved into the palac he made a great show of removin the arms and fortifications erecte by Cuba's former Dictator, Fulgenci Batista.

Castro's latest gimmick to anno American residents of Cuba is t require them to obtain exit per mits whenever they leave the island Americans and other foreign resi dents of Cuba were recently advise by the Cuban Government that the would have to get authorization fron the Revolutionary Investigation De partment before they could leave th island. The "permits" are good fo 45 days from date of issuance. On distinguished American businessman who has owned extensive interests i Cuba since 1922, obtained his per mit but was detained at Havana' International Airport for more tha 2 hours before he was finally per mitted to depart for Miami. He sai he was thoroughly searched severa times for concealed pesos and arms According to this gentleman the age of the Cuban Immigration authori ties who detained him ranged fron 13 to 17 years. Because he had bee in business in Cuba since 1922 th boys reasoned that he must be Cuban, and even though he had th required permit he should not be al lowed to leave the country. When th

(Continued on page 254)

TRANSITION: EFFECTIVENESS AND IMPLICATIONS OF BREEDING SUGARCANE IN AN INDOOR ENVIRONMENT AT CANAL POINT, FLORIDA

By P. H. Dunckelman, Research Agronomist, Crops Research Division Agricultural Research Service, U. S. Department of Agriculture.

ntroduction

The outstanding and most persistent impediment to the success of the ugarcane-breeding program at Canal Point, Florida, has been the weather. Low night temperatures, frequent strong winds, occasional freezes or near-freezes, and periodic rainfalls occur in the Lake Okeechobee area each year during the cane-breeding season. These natural hazards have seriously affected the overall efficiency of cane-breeding operations at Canal Point down through the years, constantly resulting in the production of insufficient viable true seed from high-quality crosses. In recent years, as many as 250 to 300 valuable outdoor crosses, set up at considerable expense, labor, and effort, have been practically destroyed by powerful winds in a single night, or slowly rendered unproductive by prevailing low night temperatures or drying daytime winds of high velocity.

During the winter of 1957, the most severe in the history of the Weather Bureau in Florida, natural hazards were circumvented to a large extent by a major shift from outdoor to indoor crossing procedures(10), putting into full use the tall cane-breeding greenhouse, the crossing cubicles of the photoperiod building, and the polyethylene seed-ripening shed. In 1958, the partially completed new plastic-covered crossing house, a structure 204 feet long, 26 feet wide, and 28 ft. tall (Fig. 2), was put into operational use for seed maturation, early in the season. During the latter part of the season, upon completion of some of the crossing cubicles (Fig. 5), this facility made possible the performance of 129 bi-parental crosses (Table 3).

For the first time in the 40-year history of the Canal Point Station, not a single outdoor stool cross, intended for the production of true seed for commercially adaptable purposes, was made. A typical stool cross is shown in Fig. 3. Crosses set up in the tall glass house are shown in Fig. 4. Normal blooming in the field plots of breeding canes, planted from seed cane subjected to the long hot-water treatment, is shown in Fig. 1.

For the current season's cane-breeding work at Canal Point, 415 bi-parental crosses were made, resulting in the all-time high production of an estimated 1,941,588 viable seed, or potential sugarcane seedlings, each theoretically a separate and distinct variety. These were distributed to the Louisiana Agricultural Experimental Station at Baton Rouge, Louisiana, the U. S. Sugarcane Field Stations at Houma, Louisiana, and Canal Point, Florida, the U. S. Sugar Crops Field Stations at Meridian, Mississippi, and Cairo, Georgia, and to the Florida State Everglades Experiment Station at Belle Glade, Florida. Table 4 shows that 529,082 Canal Point sugarcane seedlings, from highly selected crosses, were placed in the fields of the cooperating agencies during the spring of 1959: more than twice the number set out during the entire 20-year period 1928-48, and half as many as the total number transplanted to the fields during the years 1948-1958.

Historical background

Before 1929, Bourne(2) directed considerable attention to new breeding techniques applicable to indoor sugarcane breeding at Canal Point. He referred to the weather hazards of the subtropical climate of south Florida and to the desirability of providing satisfactory control of exter-

nal factors associated with the breeding work. In 1927, before tassels were available, Bourne conducted a series of experiments on the preservation of cut stalks of cane of three different species under greenhouse conditions, using weak acid solutions. During the 1928-29 season, after pollinating flowers of D. 74, which had bloomed near the old sugar mill at Bryant following the 1928 hurricane, with pollen from panicles of U.S. 1694 preserved in SO_2, Bourne carefully dug up the stools of D. 74, transplanted them to wooden boxes filled with soil, and moved them into the greenhouse to ripen off. Based on the existing information concerning early breeding operations at the Canal Point station, and the fact that no greenhouse was available until the late fall of 1926, these preliminary experiments by Bourne to influence the sugarcane breeding work by resorting to greenhouse conditions evidently represent the first efforts at Canal Point directed toward circumvention of weather hazards by indoor techniques.

That indoor sugarcane crosses were made at Canal Point by G. B. Sartoris in December 1929, is revealed by unpublished data in the permanent files at the Canal Point station (3). One greenhouse cross of the 1929 series (Cross 17, P.O.J. 2725 x C.P. 1165), which produced 282 seedlings, yielded three commercial varieties: C.P. 29-103, C.P. 29-116, and C.P. 29-120. In 1947 these varieties occupied 25.8 percent of the total acreage devoted to sugarcane in Louisiana. One of these varieties, C.P. 29-116, has attained significant commercial status in Australia, Cuba, South America, and the Philippine Islands, and in the sirup-producing areas of the southern and southeastern United States. In 1931, Sartoris (4) described a method of making sugarcane crosses in weak acid solutions inside the greenhouse at Canal Point. In December 1933, he attempted 4 bi-parental combinations in the greenhouse involving 13 female tassels. Three of these crosses (P.O.J. 2725 x C.P. 1165, Red Durra x C.P. 27-38, and Co. 281 x U.S. 1694) were complete failures, and the other cross (Red Durra x C.P. 31-522) produced only 25 seedlings from 3 mother tassels. Indications are that all four of these combinations were solution crosses. No evidence has been found to indicate that any further attempt at indoor breeding was made between 1934 and 1950 at Canal Point. In the winter of 1950, 10 bi-parental greenhouse crosses were made at Canal Point. 8 of these were complete failures and only 10 seedlings were produced from the other 2 crosses. In 1951 approximately 5,000 C.P. seedlings were produced from 6 bi-parental greenhouse crosses involving soil-rooted marcots in a dug-out portion of the seedling greenhouse. In 1952 very inclement weather prevailed throughout the breeding season and all except a very few of the 258 crosses made for this series were made indoors; weak acid solutions were used to preserve the cut stalks of flowering canes. Due to the bad weather, limited amount of indoor space for crossing, inadequate heating and failure of the solution technique under Canal Point conditions, only 8,000 viable seed were produced during the entire season.

Techniques relative to these more recent attempts to breed sugarcane indoors at Canal Point were reported by Grassl and Belcher in 1953 (6), who observed that higher temperatures prevailing indoors and absence of wind made it possible to obtain good results from combinations which have been failures when set up outside.

During the fall and winter of 1953-54 (1953 C.P. series), 449 indoor crosses were made in the 22 crossing cubicles of the greenhouse and the photoperiod building; 243 combinations (mostly solution crosses) were complete failures, but 206 of these indoor cross-pollinations, involving moss airlayers, soil-rooted canes, and

TABLE 1

Sugarcane crosses of the Canal Point 1958 series, grouped by female parents.

1958 C.P. Cross No.	Parentage		Location[1]	Number female tassels		Estimated number seed per cross	Estimated number seed per tassel	Distribution[2]
	Female	Male		Set in cross	Harvested			
8	B. 39246 x C.P. 46-115		R	4	4	4,340	1,085	B H
	Total or average		-	4	4	4,340	1,085	-
219	Cl. 41-70 x C.P. 33-224		B	4	4	4,818	1,204	B H
137	" x C.P. 43-64		R	4	4	5,364	1,341	B H
	Total or average		-	8	8	10,182	1,272	-
114*	Cl. 41-142 x C.P. 48-126		C	3	3	4,940	1,646	B H
115	" x C.P. 51-7		C	3	3	5,175	1,725	B H
100	" x C.P. 51-21		R	6	6	5,229	871	B H
188	" x C.P. 56-8		B	3	3	3,201	1,067	M
172	" x C.P. 56-12		R	1	1	3,825	3,825	M
	Total or average		-	16	16	22,370	1,398	-
266	Cl. 41-223 x C.P. 33-224		B	3	3	550	183	H F
237	" x C.P. 47-182		C	3	3	216	72	H F
302	" x C.P. 48-126		R	4	4	108	27	F
184	" x C.P. 50-37		R	3	3	1,260	42	H F
204*	" x C.P. 50-38		C	4	4	1,632	408	H F
408*	" x C.P. 50-38		B	1	1	0	0	F
267	" x C.P. 52-64		B	2	2	780	390	F
305	" x C.P. 53-19		B	3	3	240	80	F
367	" x C.P. 53-19		C	2	2	36	18	F
405	" x C.P. 53-76		B	1	1	0	0	F
261	" x C.P. 55-15		B	2	2	594	297	H
161	" x C.P. 56-8		R	2	2	540	270	B H
236	" x C.P. 56-8		C	4	4	92	23	H F
205*	" x C.P. 56-12		C	4	4	1,230	307	H F
238*	" x C.P. 56-12		C	2	2	210	105	H
203	" x F. 46-345		R	10	10	5,200	520	H F
335	" x L. 54-4		B	2	2	51	25	F
	Total or average		-	52	52	12,739	245	-
330*	Cl. 47-83 x C.P. 50-38		B	5	5	4,320	864	H F
406*	" x C.P. 50-38		B	2	2	66	33	F
414	" x C.P. 53-76		C	3	3	45	15	F
376	" x C.P. 55-15		B	2	2	0	0	H
377	" x F. 46-345		B	2	2	26	13	F
384*	" x Po. Mex. 60		B	2	2	25	12	F
	Total or average		-	16	16	4,482	280	-
5*	Cl. 47-143 x C.P. 38-34		R	5	5	4,316	863	B H
78*	" x C.P. 43-64		R	7	6	4,650	775	B H
26	" x C.P. 44-155		R	5	5	1,628	325	B H
3	" x C.P. 46-115		R	10	10	2,660	266	B H
48*	" x C.P. 48-126		R	7	7	3,621	517	B H
110	" x C.P. 51-7		C	4	4	3,444	861	H
56	" x C.P. 52-15		G	5	5	1,058	211	B H
274	" x C.P. 52-64		B	2	2	896	448	F
97	" x C.P. 52-114		R	6	6	4,680	780	B H
189	" x C.P. 56-8		B	4	4	3,250	812	H F
171	" x C.P. 56-12		R	2	2	4,704	2,352	F M
340	" x L. 54-4		B	2	2	360	180	H
	Total or average		-	59	58	35,267	608	-

TABLE 1—(Continued)
Sugarcane crosses of the Canal Point 1958 series, grouped by female parents.

1958 C.P. Cross No.	Parentage		Location[1]	Number female tassels		Estimated number seed per cross	Estimated number seed per tassel	Distribution[2]
	Female	Male		Set in cross	Harvested			
242*	Co. 281	x C.P. 1165	G	7	7	9,870	1,410	B H
281	"	x C.P. 33-224	B	2	2	2,800	1,400	B
368	"	x C.P. 55-56	C	1	1	16	16	H
	Total or average		-	10	10	12,686	1,269	-
254	Co. 290	x C.P. 47-182	R	4	4	630	157	F
175	"	x C.P. 56-8	R	4	4	3,636	909	H
	Total or average		-	8	8	4,266	533	-
16	Co. 312	x C.P. 44-155	R	7	7	2,900	414	B H
25	"	x C.P. 52-76	C	11	11	3,920	356	B H
	Total or average		-	18	18	6,820	379	-
147**	Co. 421	x Co. 312	R	5	5	6,750	1,350	H
185**	"	x Co. 312	R	2	2	4,608	2,304	F
75	"	x C.P. 43-64	G	4	4	2,960	740	B H
7	"	x C.P. 46-115	R	3	3	3,675	1,225	B H
44	"	x C.P. 52-15	G	3	3	1,500	500	B H
412	"	x C.P. 53-76	B	1	1	360	360	F
321	"	x C.P. 55-15	B	1	1	1,440	1,440	H
282	"	x F. 46-345	B	1	1	2,028	2,028	F
	Total or average		-	20	20	23,321	1,166	-
365	C.P. 29-116	x C.P. 55-56	C	1	1	0	0	M
194	"	x C.P. 56-8	B	2	1	520	520	M
	Total or average		-	3	2	520	260	-
182**	C.P. 29-320	x C.P. 38-34	B	5	5	7,238	1,447	B H
249**	"	x C.P. 38-34	R	10	10	6,160	616	B H
301**	"	x C.P. 38-34	R	11	11	1,274	115	B H
356	"	x C.P. 52-70	R	8	8	740	92	H F
362	"	x C.P. 53-76	C	3	3	0	0	H
381	"	x C.P. 53-76	B	4	4	39	9	H
410	"	x C.P. 53-76	B	6	6	54	9	H
332	"	x C.P. 56-12	B	4	4	952	238	H
382	"	x F. 46-345	B	4	4	64	16	H
331*	"	x L. 54-4	B	6	5	3,139	628	B H
	Total or average		-	61	60	19,660	327	-
385	C.P. 31-511	x C.P. 53-76	B	1	1	48	48	M
272	"	x F. 46-345	B	2	2	8,471	4,235	M
	Total or average		-	3	3	8,519	2,840	-
230*	C.P. 33-229	x C.P. 33-224	C	3	2	3,315	1,657	H
271*	"	x C.P. 33-224	B	2	2	4,512	2,256	H
314	"	x C.P. 53-19	B	5	5	1,144	229	H
374	"	x C.P. 56-12	C	2	2	207	103	H
	Total or average		-	12	11	9,178	834	-
409*	C.P. 34-79	x C.P. 50-38	B	2	2	15	7	F
	Total or average		-	2	2	15	7	-

TABLE 1—(Continued)
Sugarcane crosses of the Canal Point 1958 series, grouped by female parents.

1958 C.P. Cross No.	Parentage		Location[1]	Number female tassels		Estimated number seed per cross	Estimated number seed per tassel	Distribution[2]
	Female	Male		Set in cross	Harvested			
28*	C.P. 34-120	x C.P. 38-34	C	6	6	7,290	1,215	B H
35	"	x C.P. 43-64	C	4	4	2,625	656	B H
36	"	x C.P. 44-155	R	6	6	3,901	650	B H
65	"	x C.P. 51-24	C	4	4	10,640	2,660	B H
87	"	x C.P. 51-24	R	2	2	1,155	577	B H
159	"	x C.P. 56-8	R	4	3	6,750	2,250	B H
256	"	x F. 46-345	C	2	2	7,258	3,629	B H
285	"	x F. 46-345	B	1	1	3,066	3,066	H
	Total or average		-	29	28	42,685	1,524	-
341	C.P. 36-105	x C.P. 33-224	C	4	4	248	62	B H
73*	"	x C.P. 38-34	G	9	9	9,300	1,033	B H
32*	"	x C.P. 44-155	C	10	10	10,640	1,064	B H
34	"	x C.P. 52-15	C	6	6	1,950	325	B H
54	"	x C.P. 52-15	G	8	8	5,520	690	B H
315	"	x F. 46-345	B	5	5	3,434	687	H F
	Total or average		-	42	42	31,092	740	-
229*	C.P. 43-64	x C.P. 33-372	C	9	9	9,042	1,004	B H
112*	"	x C.P. 48-126	C	12	12	7,440	620	B H
113	"	x C.P. 51-24	C	15	15	21,120	1,408	B H.F
132	"	x C.P. 52-15	C	8	8	5,040	630	B H
363	"	x C.P. 55-15	C	8	8	0	0	H F
342	"	x C.P. 55-56	C	2	2	30	15	M
303*	"	x F. 46-345	B	16	16	10,395	650	H F M
394	"	x Po. Mex. 60	B	3	3	595	198	F
	Total or average		-	73	73	53,662	735	-
366	C.P. 44-154	x F. 46-345	C	1	1	198	198	H
	Total or average		-	1	1	198	198	-
227	C.P. 44-155	x C.P. 1165	G	4	4	5,456	1,364	B H
121*	"	x C.P. 33-224	G	10	10	23,760	2,376	B H
64*	"	x C.P. 38-34	C	6	6	10,980	1,830	B H
80*	"	x C.P. 38-34	R	9	9	22,748	2,527	B H
27*	"	x C.P. 43-64	C	6	6	5,400	900	B H
69*	"	x C.P. 43-64	G	12	11	4,864	442	B H
79*	"	x C.P. 43-64	R	17	17	22,560	1,327	B H
279*	"	x C.P. 43-64	B	4	4	3,780	945	B H F
174	"	x C.P. 45-73	C	4	4	4,692	1,173	B H
178	"	x C.P. 48-117	R	3	3	2,480	826	B H
46**	"	x C.P. 48-126	R	23	20	7,239	361	B H
92**	"	x C.P. 48-126	R	9	9	4,770	530	B H
136**	"	x C.P. 48-126	G	13	13	15,470	1,190	B H
179**	"	x C.P. 48-126	R	18	18	22,880	1,271	B H
146	"	x C.P. 50-38	G	7	7	15,170	2,167	H M
148	"	x C.P. 51-21	C	6	6	5,920	986	B H
63	"	x C.P. 51-24	C	6	6	6,072	1,012	B H
57	"	x C.P. 52-15	G	9	9	3,920	435	B H F
169	"	x C.P. 52-43	C	6	6	8,400	1,400	H M
91**	"	x C.P. 53-16	C	8	7	12,972	1,853	B H
344	"	x C.P. 55-56	C	1	1	16	16	M
152	"	x C.P. 56-8	R	10	10	20,538	2,053	B H F
162	"	x C.P. 56-12	R	8	8	13,112	1,639	B H F
43	"	x C.P. 57-21	C	4	4	5,180	1,295	B H

TABLE 1—(Continued)
Sugarcane crosses of the Canal Point 1958 series, grouped by female parents.

1958 C.P. Cross No.	Parentage		Location[1]	Number female tassels		Estimated number seed per cross	Estimated number seed per tassel	Distribution[2]
	Female	Male		Set in cross	Harvested			
192	"	x F. 46-345	B	3	3	7,590	2,530	F
208	"	x F. 46-345	C	7	6	4,368	728	B H F
	Total or average		-	213	207	260,337	1,258	-
288	C.P. 45-73	x F. 46-345	R	8	8	15,399	1,924	B H
395	"	x Po. Mex. 60	B	1	1	994	994	F
	Total or average		-	9	9	16,393	1,821	-
145	C.P. 47-49	x C.P. 33-224	G	4	4	8,000	2,000	B H
197	"	x C.P. 43-64	B	12	12	8,379	698	B H F
167	"	x C.P. 56-8	C	3	3	770	256	B H
	Total or average		-	19	19	17,149	903	-
371	C.P. 47-191	x C.P. 56-12	C	1	1	230	230	H
	Total or average		-	1	1	230	230	-
346	C.P. 47-193	x C.P. 56-12	B	1	1	585	585	H
	Total or average		-	1	1	585	585	-
228	C.P. 48-103	x C.P. 1165	G	8	8	4,410	551	B H
6*	"	x C.P. 38-34	R	20	20	18,850	942	B H
77*	"	x C.P. 43-64	R	19	19	26,700	1,405	B H
117*	"	x C.P. 43-74	G	11	11	4,992	453	B H
127	"	x C.P. 44-101	C	5	5	4,840	968	B H
13	"	x C.P. 44-155	R	12	12	7,050	587	B H
9	"	x C.P. 46-115	R	10	10	6,570	657	B H
71*	"	x C.P. 47-146	G	11	11	5,300	481	B H
222	"	x C.P. 47-182	G	7	7	13,764	1,820	B H
177	"	x C.P. 48-117	R	8	8	5,130	641	B H
49	"	x C.P. 48-126	G	8	8	3,000	375	B H
139	"	x C.P. 50-38	G	8	8	15,040	1,880	B H
39	"	x C.P. 51-24	C	10	10	2,208	220	B H F
11	"	x C.P. 52-11	C	6	5	6,450	1,290	B H
22*	"	x C.P. 52-15	R	8	8	1,406	175	B H
45*	"	x C.P. 52-15	G	10	10	1,548	154	B H F
248**	"	x C.P. 52-34	C	9	9	3,630	403	B H
118*	"	x C.P. 52-36	R	10	10	14,605	1,460	H G
276	"	x C.P. 52-64	B	6	6	2,050	342	B H
357	"	x C.P. 52-70	R	3	3	0	0	H
21	"	x C.P. 52-76	C	6	6	2,700	450	B H
95*	"	x C.P. 52-114	R	11	10	7,600	760	B H
103	"	x C.P. 53-5	C	10	10	13,080	1,308	B H
66**	"	x C.P. 53-16	C	12	12	16,830	1,402	B H
388**	"	x C.P. 53-16	B	3	3	0	0	H
51*	"	x C.P. 53-17	G	17	17	4,508	265	B H F
251*	"	x C.P. 53-19	C	6	6	2,460	410	H
304*	"	x C.P. 53-19	B	5	5	761	152	H
383	"	x C.P. 53-76	B	1	1	0	0	H
407	"	x C.P. 53-76	B	2	2	0	0	H
213	"	x C.P. 55-15	G	4	4	2,322	580	B H
402	"	x C.P. 55-15	B	4	0	0	0	H
253	"	x C.P. 55-56	R	1	1	624	624	M
166	"	x C.P. 56-8	C	3	3	720	240	B H
339	"	x C.P. 56-12	B	3	3	992	331	H
42	"	x C.P. 57-21	C	5	5	8,360	1,672	B H

TABLE 1—(Continued)
Sugarcane crosses of the Canal Point 1958 series, grouped by female parents.

1958 C.P. Cross No.	Parentage		Location[1]	Number female tassels		Estimated number seed per cross	Estimated number seed per tassel	Distribution[2]
	Female	Male		Set in cross	Harvested			
193	"	x F. 46-345	B	5	5	19,866	3,973	B H
277	"	x P. 33-32	B	4	4	9,546	2,386	B H
149*	"	x Po. Mex. 60	G	11	11	23,940	2,176	H F M
403*	"	x Po. Mex. 60	B	4	4	132	33	F
	Total or average		-	306	300	261,984	873	-
287*	C.P. 48-117	x C.P. 43-64	B	3	3	2,478	826	F
289	"	x C.P. 47-182	R	2	2	1,652	826	B H
247*	"	x C.P. 52-114	G	5	5	1,363	272	B H
369	"	x C.P. 53-19	C	3	3	2,877	959	H F
397*	"	x C.P. 53-76	B	1	1	40	40	H
413*	"	x C.P. 53-76	B	3	3	108	36	F
309	"	x C.P. 55-15	B	6	6	4,680	780	B H
233	"	x C.P. 56-8	C	6	6	990	165	B H
312	"	x F. 46-345	B	2	1	1,190	1,190	F
343	"	x L. 54-4	B	3	3	1,368	456	M
	Total or average		-	34	33	16,746	507	-
221	C.P. 48-126	x C.P. 47-182	C	3	3	6,336	2,112	B H
320	"	x C.P. 52-64	B	10	10	18,646	1,864	B H
246*	"	x C.P. 52-114	G	2	2	1,469	734	B H
349	"	x C.P. 55-15	C	2	2	800	400	F
347	"	x F. 46-345	C	4	4	646	161	H M
390	"	x F. 46-345	B	3	3	58	19	F
	Total or average		-	24	24	27,955	1,165	-
324	C.P. 49-34	x F 46-345	B	1	1	480	480	F
	Total or average		-	1	1	480	480	-
123	C.P. 50-28	x C.P. 33-224	G	4	4	3,630	907	F
29*	"	x C.P. 38-34	C	6	6	3,162	527	B H
81*	"	x C.P. 38-34	R	14	14	7,332	523	B H
82*	"	x C.P. 43-64	R	15	15	8,085	539	B H
124	"	x C.P. 43-74	G	3	3	360	120	B H
122	"	x C.P. 44-101	C	4	4	1,120	280	B H
183	"	x C.P. 48-117	R	3	3	525	175	F
47*	"	x C.P. 48-126	R	7	7	1,736	248	B H
157	"	x C.P. 50-38	G	8	8	4,500	562	H F
111	"	x C.P. 51-7	C	7	7	3,900	557	B H
101	"	x C.P. 51-21	R	7	7	2,600	371	B H
89	"	x C.P. 51-24	C	5	5	342	68	B H
68	"	x C.P. 52-15	G	6	6	506	84	B H
135	"	x C.P. 52-36	R	10	10	4,800	480	B H
294	"	x C.P. 52-64	B	2	2	480	240	B H
62	"	x C.P. 53-17	G	6	6	1,891	315	B H
83	"	x C.P. 57-21	C	6	6	2,040	340	B H
209	"	x F. 46-345	G	6	6	3,927	654	F
295*	"	x P. 33-32	B	5	5	1,036	207	F
151*	"	x Po. Mex. 60	G	6	6	4,680	780	F
	Total or average		-	130	130	56,652	436	-
286	C.P. 50-37	x F. 46-345	R	6	6	961	160	B H
	Total or average		-	6	6	961	160	-

TABLE 1—(Continued)
Sugarcane crosses of the Canal Point 1958 series, grouped by female parents.

1958 C.P. Cross No.	Parentage		Location[1]	Number female tassels		Estimated number seed per cross	Estimated number seed per tassel	Distribution[2]
	Female	Male		Set in cross	Harvested			
401**	C.P. 50-40	x C.P. 53-76	B	1	1	15	15	H
	Total or average		-	1	1	15	15	-
273	C.P. 50-41	x C.P. 43-64	B	2	2	2,640	1,320	M
180	"	x C.P. 48-126	R	7	7	11,844	1,692	H M
125	"	x C.P. 50-37	G	6	6	9,120	1,520	H M
108	"	x C.P. 51-21	R	9	9	4,536	504	H F
129	"	x C.P. 51-24	C	4	4	7,912	1,978	H M
131	"	x C.P. 52-15	C	10	10	5,810	581	B H
245	"	x C.P. 52-114	G	1	1	398	398	M
323	"	x C.P. 55-15	B	4	4	2,788	697	H M
352	"	x C.P. 55-15	B	3	3	216	72	B H
191	"	x C.P. 56-8	B	6	6	4,488	748	B H
	Total or average		-	52	52	49,752	957	-
291	C.P. 51-21	x C.P. 55-56	R	3	3	1,271	423	M
	Total or average		-	3	3	1,271	423	-
133	C.P. 52-1	x C.P. 33-224	G	3	3	5,375	1,791	F M
130*	"	x C.P. 36-105	C	5	5	4,800	960	B H
59*	"	x C.P. 38-34	C	4	4	6,440	110	B H
84*	"	x C.P. 38-34	R	8	8	15,040	1,880	B H
76	"	x C.P. 43-64	R	12	12	12,300	1,025	B H
128	"	x C.P. 44-101	C	3	3	2,108	702	B H
14	"	x C.P. 44-155	R	6	6	1,292	215	B H
67	"	x C.P. 45-73	C	5	5	3,886	777	B H
12	"	x C.P. 46-115	C	6	6	480	80	B H
18	"	x C.P. 48-103	R	6	6	1,725	287	B H
94	"	x C.P. 48-126	R	9	8	7,650	956	B H
98	"	x C.P. 51-21	R	8	8	6,960	870	H F
53	"	x C.P. 51-24	C	3	3	1,428	476	B H
33*	"	x C.P. 52-11	C	7	7	4,550	650	B H
23	"	x C.P. 52-15	R	8	8	570	71	B H
60	"	x C.P. 52-15	G	3	3	1,904	634	B H
20	"	x C.P. 52-76	C	7	6	576	96	B H
106	"	x C.P. 52-114	C	5	5	984	197	F M
52	"	x C.P. 53-17	G	6	6	864	144	B H
379	"	x C.P. 53-76	B	2	2	170	85	M
260	"	x C.P. 55-15	B	4	4	10,920	2,730	F
156	"	x C.P. 56-8	R	5	5	13,020	2,604	B H
165	"	x C.P. 56-12	R	5	5	10,220	2,044	H F
41	"	x C.P. 57-21	C	5	5	7,332	1,466	B H
211	"	x F. 46-345	G	2	2	6,764	3,382	F
336	"	x L. 54-4	B	1	1	550	550	B
	Total or average		-	138	136	127,908	940	-
138	C.P. 52-8	x C.P. 57-21	C	5	5	7,752	1,550	H
	Total or average		-	5	5	7,752	1,550	-
255	C.P. 52-15	x C.P. 47-182	R	6	6	7,380	1,230	B H
258	"	x F. 46-345	R	5	5	4,888	977	B H
	Total or average		-	11	11	12,268	1,115	-
104*	C.P. 52-16	x C.P. 53-5	C	7	7	7,980	1,140	B H
	Total or average		-	7	7	7,980	1,140	-

TABLE 1—(Continued)
Sugarcane crosses of the Canal Point 1958 series, grouped by female parents.

1958 C.P. Cross No.	Parentage		Location[1/]	Number female tassels		Estimated number seed per cross	Estimated number seed per tassel	Distribution[2/]
	Female	Male		Set in cross	Harvested			
283	C.P. 52-43	x C.P. 43-64	B	3	3	1,224	408	F
284	"	x C.P. 52-64	B	3	3	3,552	1,184	B H
348	"	x C.P. 55-15	B	1	1	24	24	M
393	"	x C.P. 55-15	B	1	1	0	0	H
257	"	x F. 46-345	C	3	3	4,788	1,596	H
	Total or average		-	11	11	9,588	872	-
10	C.P. 52-58	x C.P. 46-115	C	10	10	910	91	B H
317	"	x C.P. 55-15	B	2	2	180	90	H
370	"	x C.P. 56-12	C	1	1	490	490	H
	Total or average		-	13	13	1,580	121	-
160	C.P. 52-68	x Co. 312	R	4	4	2,414	603	B H
31	"	x C.P. 43-64	C	6	6	3,060	510	B H
70	"	x C.P. 43-64	G	4	4	2,300	575	B H
15	"	x C.P. 44-155	R	12	12	5,043	420	B H
173	"	x C.P. 45-73	C	4	4	960	240	B H
17*	"	x C.P. 48-103	R	10	10	2,346	234	B H
181	"	x C.P. 50-37	R	11	11	13,320	1,210	B H
107	"	x C.P. 51-7	C	12	12	8,690	724	B H
99	"	x C.P. 51-21	R	4	4	2,040	510	H
50	"	x C.P. 51-24	C	8	8	1,800	225	B H
86	"	x C.P. 51-24	R	9	9	3,720	413	B H F
24	"	x C.P. 52-15	R	9	9	1,350	150	B H F
55	"	x C.P. 52-15	G	3	3	1,105	368	B H
105	"	x C.P. 52-114	C	10	10	5,760	576	B H
214	"	x C.P. 55-15	G	4	4	1,679	419	B H
158	"	x C.P. 56-8	R	10	10	11,544	1,154	B H
163	"	x C.P. 56-12	R	10	10	11,590	1,159	B H
206	"	x F. 46-345	R	6	6	8,126	1,354	B H F
	Total or average		-	136	136	86,847	639	-
313	C.P. 52-114	x C.P. 53-19	B	2	2	120	60	F
275	"	x C.P. 55-15	B	2	2	1,240	620	B H
234	"	x C.P. 56-8	C	4	4	130	32	B H
	Total or average		-	8	8	1,490	186	-
116*	C.P. 53-1	x C.P. 36-105	C	6	6	1,564	260	B H
90*	"	x C.P. 43-64	R	12	12	38,250	3,187	B H
278*	"	x C.P. 43-64	B	6	6	11,692	1,948	B H
232	"	x C.P. 47-182	C	6	5	7,560	1,512	B H
126	"	x C.P. 50-37	G	4	4	9,024	2,256	B H
134	"	x C.P. 52-15	C	2	2	540	270	B H
150	"	x C.P. 52-36	R	3	3	8,400	2,800	B H F
280	"	x C.P. 52-64	B	3	3	11,322	3,774	B H
358	"	x C.P. 52-70	R	5	5	186	37	B H
386	"	x C.P. 53-76	B	3	3	44	15	H
404	"	x C.P. 53-76	B	1	1	42	42	F
265	"	x C.P. 55-15	B	3	3	11,577	3,859	B H
388	"	x C.P. 55-15	B	3	3	0	0	H
361	"	x C.P. 55-56	C	2	2	115	57	M
187	"	x C.P. 56-8	B	6	6	13,005	2,167	B H
235	"	x C.P. 56-8	C	3	3	1,128	376	B H
337	"	x C.P. 56-12	B	4	4	1,488	372	B H
311	"	x F. 46-345	B	12	12	38,976	3,248	H F

TABLE 1—(Continued)
Sugarcane crosses of the Canal Point 1958 series, grouped by female parents.

1958 C.P. Cross No.	Parentage		Location[1]	Number female tassels		Estimated number seed per cross	Estimated number seed per tassel	Distribution[2]
	Female	Male		Set in cross	Harvested			
387	"	× F. 46-345	B	4	4	177	44	F
	Total or average		-	88	87	155,099	1,783	-
223	C.P. 53-18	× C.P. 1165	G	12	12	19,440	1,620	B H F
119*	"	× C.P. 33-224	G	11	11	33,000	3,000	B H F
200*	"	× C.P. 33-224	B	4	4	11,700	2,925	B H
231*	"	× C.P. 33-224	C	6	6	10,600	1,766	H F
263*	"	× C.P. 33-224	B	4	4	6,020	1,505	B H
85*	"	× C.P. 38-34	R	5	5	7,150	1,430	B H
74*	"	× C.P. 43-64	G	8	8	3,520	440	B H
199*	"	× C.P. 43-64	B	6	6	9,024	1,504	F M
120	"	× C.P. 43-74	G	9	9	5,330	592	B H
220	"	× C.P. 47-182	G	7	7	8,568	1,224	H F
176	"	× C.P. 48-117	R	8	7	6,900	985	B H F
202	"	× C.P. 50-37	R	4	4	5,292	1,323	H M
140*	"	× C.P. 50-38	G	8	8	13,561	1,695	H M
224*	"	× C.P. 50-38	G	6	6	11,501	1,916	B H
102	"	× C.P. 51-21	R	5	5	6,750	1,350	B H
93	"	× C.P. 51-24	R	7	7	3,720	531	B H F
61	"	× C.P. 52-15	G	6	6	3,434	572	B H
210	"	× C.P. 52-36	G	6	6	3,588	598	B H
170	"	× C.P. 52-43	C	3	3	7,740	2,580	F
264	"	× C.P. 52-64	B	4	4	7,314	1,828	F
109*	"	× C.P. 52-114	C	7	7	2,706	386	H F
226*	"	× C.P. 52-114	C	6	6	6,600	1,100	F M
308*	"	× C.P. 53-19	B	5	5	4,251	850	H
262	"	× C.P. 55-15	B	4	4	3,649	912	B H
351	"	× C.P. 55-15	C	5	5	32	6	B H
252	"	× C.P. 55-56	R	8	8	2,162	270	F M
154	"	× C.P. 56-8	R	6	6	8,804	1,467	H M
225	"	× C.P. 56-8	C	6	6	670	111	B H
164	"	x C.P. 56-12	R	5	5	13,020	2,604	H M
373	"	x C.P. 56-12	C	1	1	568	568	M
190	"	x F. 46-345	B	12	12	34,500	2,875	F M
270*	"	x P. 33-32	B	2	2	2,400	1,200	F
157	"	x Po. Mex. 60	G	5	5	11,613	2,322	F
	Total or average		-	201	200	275,127	1,375	-
329	C.P. 55-13	× C.P. 55-56	C	1	1	0	0	M
	Total or average		-	1	1	0	0	-
353	C.P. 55-20	× C.P. 55-15	C	2	2	666	333	H
	Total or average		C	2	2	666	333	-
299	C.P. 55-22	× C.P. 43-64	B	1	1	2,136	2,136	F
326	"	× C.P. 56-12	C	3	3	6,120	2,040	M
	Total or average		-	4	4	8,256	2,064	-
240	C.P. 55-30	× C.P. 1165	G	5	5	8,736	1,747	B H
196	"	× C.P. 33-224	B	6	6	5,152	858	B H
300	"	× C.P. 33-224	B	4	4	1,271	318	B H
198	"	× C.P. 43-64	B	5	5	4,940	988	B H
243	"	× C.P. 52-36	G	4	4	6,512	1,628	B H
268	"	× C.P. 52-64	B	7	7	10,260	1,465	B H
316	"	× C.P. 53-19	B	6	6	2,400	400	B H

TABLE 1—(Continued)
Sugarcane crosses of the Canal Point 1958 series, grouped by female parents.

1958 C.P. Cross No.	Parentage		Location[1]	Number female tassels		Estimated number seed per cross	Estimated number seed per tassel	Distribution[2]
	Female	Male		Set in cross	Harvested			
241	"	x C.P. 55-15	G	4	4	2,403	600	B H
259	"	x C.P. 55-56	R	5	5	1,798	359	M
322	"	x C.P. 55-56	C	5	5	900	180	M
155	"	x C.P. 56-8	R	5	5	6,204	1,240	B H
168	"	x C.P. 56-12	R	6	6	7,632	1,272	B H
239	"	x C.P. 56-12	C	6	6	4,454	742	B H
195	"	x F. 46-345	B	4	4	2,924	731	B H
207	"	x F. 46-345	C	4	4	3,570	892	B H
269	"	x P. 33-32	B	8	8	13,048	1,631	B H
396	"	x Po. Mex. 60	B	1	1	220	220	F
	Total or average		-	85	85	82,424	970	-
36	C.P. 55-38	x C.P. 38-34	C	3	3	290	96	B H
37	"	x C.P. 46-115	C	7	7	920	131	B H
88	"	x C.P. 57-21	C	7	7	6,026	860	B H F
	Total or average		-	17	17	7,236	426	-
201	C.P. 55-56	x F. 46-345	B	3	3	6,000	2,000	M
	Total or average		-	3	3	6,000	2,000	-
392	C.P. 56-6	x C.P. 55-15	B	2	2	0	0	H
	Total or average		-	2	2	0	0	-
142	C.P. 56-7	x C.P. 50-38	G	5	5	9,617	1,923	B H
218	"	x C.P. 52-36	G	1	1	2,178	2,178	H
	Total or average		-	6	6	11,795	1,966	-
293	C.P. 56-8	x C.P. 50-38	B	13	13	13,846	1,065	B H
310	"	x C.P. 55-15	B	5	5	660	132	B H
389	"	x Po. Mex. 60	B	3	3	72	24	M
	Total or average		-	21	21	14,578	694	-
144	C.P. 56-18	x C.P. 50-37	G	4	4	3,250	812	B H
216	"	x C.P. 55-15	G	2	2	1,812	906	B H
354	"	x C.P. 55-15	C	1	1	176	176	H
372	"	x C.P. 56-12	C	1	1	98	98	H
	Total or average		-	8	8	5,336	667	-
328	C.P. 56-20	x C.P. 55-56	C	1	1	1,360	1,360	M
	Total or average		-	1	1	1,360	1,360	-
143	C.P. 56-22	x C.P. 50-38	G	1	1	2,405	2,405	H
399	"	x C.P. 55-15	B	1	1	0	0	H
327	"	x C.P. 56-12	C	3	3	1,653	551	B H
415	"	x C.P. 56-12	B	2	2	738	369	F
	Total or average		-	7	7	4,796	685	-
212	C.P. 56-28	x C.P. 52-114	C	3	3	672	224	B H
215	"	x C.P. 55-15	G	2	1	455	455	B H
318	"	x C.P. 55-15	B	2	2	549	275	H
398	"	x C.P. 55-15	B	1	1	0	0	F
	Total or average		-	8	7	1,676	239	-

TABLE 1—(Continued)
Sugarcane crosses of the Canal Point 1958 series, grouped by female parents.

1958 C.P. Cross No.	Parentage		Location[1]	Number female tassels		Estimated number seed per cross	Estimated number seed per tassel	Distribution[2]
	Female	Male		Set in cross	Harvested			
141	C.P. 57-3	:: C.P. 50-38	G	3	3	4,680	1,506	H
186	"	:: C.P. 56-6	B	4	4	740	185	B H
	Total or average		-	7	7	5,420	774	-
298	C.P. 57-4	:: C.P. 33-224	B	5	5	4,150	830	B H
307	"	:: C.P. 53-19	B	4	4	2,880	720	B H
364	"	x C.P. 53-19	C	3	3	100	33	H
391	"	x C.P. 53-76	B	2	2	0	0	H
306	"	:: C.P. 55-15	B	3	3	483	161	B H
345	"	x C.P. 56-12	B	1	1	198	198	H
	Total or average		-	18	18	7,811	434	-
250	C.P. 57-20	x C.P. 38-34	R	5	5	684	136	B H
350	"	x C.P. 56-12	B	2	2	910	455	H
	Total or average		-	7	7	1,594	228	-
297	C.P. 57-21	x C.P. 33-224	B	4	4	5,376	1,344	B H
217	"	x F. 46-345	G	1	1	1,708	1,708	H
319	"	x F. 46-345	B	4	4	420	105	H F
	Total or average		-	9	9	7,504	834	-
296**	F. 36-819	x C.P. 48-126	R	7	7	188	26	B H
333	"	x C.P. 50-38	B	3	3	2,898	966	H F
411	"	x C.P. 50-38	B	1	1	16	16	F
355	"	x C.P. 52-70	R	8	8	0	0	H F
359	"	x C.P. 55-56	C	2	2	0	0	M
334	"	x C.P. 56-12	B	3	3	1,147	382	H F
360	"	x C.P. 56-12	C	2	2	204	102	F
378	"	x F. 46-345	B	3	3	62	31	F
380	"	x Po. Mex. 60	B	2	2	320	160	F
	Total or average		-	31	31	4,835	156	-
30	L. 56-27	x C.P. 44-155	R	7	7	3,600	514	B H
325	"	x C.P. 55-56	C	1	1	0	0	B
	Total or average		-	8	8	3,600	514	-
4	N.Co. 310	x C.P. 38-34	R	5	5	7,840	1,568	B H
1*	"	x C.P. 46-115	R	20	20	11,440	572	B H
72*	""	x C.P. 47-146	G	4	4	1,350	337	H
19	"	x C.P. 48-103	R	4	4	1,360	340	H
58	"	x C.P. 51-24	C	3	3	2,700	900	B H
40	"	x C.P. 52-15	R	2	2	324	162	H
2	"	x C.P. 52-76	R	12	12	1,596	133	B H
96*	"	x C.P. 52-114	R	4	4	2,448	612	H
244*	"	x C.P. 52-114	G	2	2	624	312	H
400	"	x C.P. 53-76	B	1	1	10	10	F
292	"	x C.P. 55-15	B	2	2	2,185	1,092	H
	Total or average		-	59	59	31,877	540	-
375	U.S. 53-20-17	x C.P. 56-12	C	1	1	0	0	M
	Total or average		-	1	1	0	0	-
Miscellaneous 1-gram germination tests			-	-		36,682	-	-
Grand total or average			-	2,160	2,137	1,941,588***	908***	-

FOOTNOTES TABLE 1

*Requested repeat crosses for Louisiana, Florida, and the sirup area.
**Crosses of special interest for Louisiana.
***Based on number of female tassels harvested.

1/ Location of crosses:
B - New plastic sugarcane-breeding house.
C - Cubicles of photoperiod house.
G - Tall greenhouse.
R - Polyethylene-enclosed seed-ripening shed.

2/ Key to distribution:
B - Louisiana Agricultural Experiment Station, Baton Rouge, Louisiana.
H - U.S.D.A. Sugarcane Field Station, Houma, Louisiana.
F - U.S.D.A. Sugarcane Field Station, Canal Point, Florida, and Everglades Experiment Station, Belle Glade, Florida.
M - U.S.D.A. Sugar Crops Field Station, Meridian, Mississippi.

Table 2. Sugarcane seed production at Canal Point during the 1958 season: Types of crosses performed.

Type of cross	Number of bi-parental crosses made	Number of female tassels involved	Estimated total seed production	Estimated number of seed per tassel	Percent of total seed production
Special repeat crosses	95	688	691,411	1,005	35.61
High sucrose x high sucrose	87	444	335,324	755	17.27
New miscellaneous combinations	233	1,005	914,853*	910	47.12
Total or average	415	2,137	1,941,588	908	100.00

*Includes an estimated 36,682 seedlings from 415 1-gram samples in germination tests.

cut canes in weak acid solution, were successful and resulted in the production of over 100,000 viable seed, as reported by Dunckelman, Grassl, and Belcher in 1954(7).

Throughout the 1954, 1955, and 1956 breeding seasons at Canal Point, 1,548 bi-parental sugarcane crosses were made; 1,455 of these crosses were made indoors. From these combinations, over the 3-year period, approximately 320,000 seedlings were space-planted singly and in bunches (Hawaiian style) in the fields in Louisiana, Florida, Mississippi, and Georgia.

During 1957, Dunckelman and coworkers(10) placed further emphasis on indoor crossing and achieved unusual success at Canal Point in producing approximately 700,000 viable seed from high-quality crosses; 299,282 seedlings from recommended crosses of this series were transplanted to the fields of the cooperating agencies during the spring of 1958.

Current approaches

The increasing demands of the mainland cane-sugar industry for superior varieties of sugarcane prompted the American Sugar Cane League of the U.S.A., Inc., the United States Department of Agriculture, and the Louisiana Agricultural Experiment Station to expand and further intensify all phases of endeavor relative

Table 3. Sugarcane seed production at Canal Point during the 1958 season: Location of crosses.

Location	Number of bi-parental crosses made	Number of female tassels involved	Estimated total seed production	Estimated number of seed per tassel	Percent o total see production
Cubicles of new plastic breeding house	129	446	437,778	982	22.98
Cubicles of photoperiod building	118	562	415,712	740	21.82
Tall greenhouse (glass house)	65	386	401,597	1,040	21.08
Polyethylene enclosure	103	743	649,819	875	34.12
Total or average	415	2,137	1,904,906*	891	100.00

*This total does not include an estimated 36,682 seedlings from 415 1-gram samples in germination tests.

Table 4. Distribution and Disposition of True seed of the 1958 C. P. Series Sugarcane Crosses: Compiled from Individual Cooperators' Records, Spring, 1959.

Cooperating Agency	Estimated Number of Viable Seed Received	Number of Seed Germinated	Estimated Number of Viable Seed Stored	Number of Seedlings Transplanted to Pots or Flats	Number of Seedlings Died, Mosaic or Discarded	Number of Seedlings set to Field
La. Agricultural Experiment Station, Baton Rouge, Louisiana	866,003	2,460	863,543	2,239	380	2,080
Florida State Experiment Station, Belle Glade, Florida	52,900	52,900*	0	49,500	5,496	47,404
U.S.D.A. Sugarcane Field Station, Houma, Louisiana	778,939	575,439	203,500	420,358	155,711	419,728
U.S.D.A. Sugarcane Field Station, Canal Point, Florida	235,250	45,750*	189,500	42,720	4,813	40,957**
U.S.D.A. Sugar Crops Field Station, Meridian, Mississippi	136,728	16,000	120,728	14,000	3,800	12,200
U.S.D.A. Sugar Crops Field Station, Cairo, Georgia	6,794	6,794	0	6,794	61	6,733
Totals	2,076,614	699,343	1,377,271	535,611	170,261	529,082

*Includes seedlings from 1-gram germ samples, grouped according to female parents.
**Set to field at Fellsmere, Florida, in cooperation with Okeelanta Sugar Refinery, Inc.

to the production of new superior varieties of sugarcane for Louisiana, Florida, and the sirup area. Strong emphasis has been placed on the sugarcane-breeding program at Canal Point, with recommendations to increase the production of true seed from high-quality crosses involving bi-species and tri-species hybrids, and to strengthen the basic cane-breeding work by interspecific and intergeneric hybridizations. Further inclusion of *S. officinarum* (Noble) germ plasm directly into the system of crosses designed for commercial adaptability will be attempted on a broader scale. Emphasis has also been strongly placed on all agronomic, pathological, and entomological phases of the variety-development program for thorough and efficient screening of large populations of original seedlings, with increased intensity of testing and development of all levels of the extensive procedures involved in discovery and release of

Fig. 1. Natural blooming in breeding plots at Canal Point.

uperior varieties of sugarcane for ommercial production.

The most basic requirement for a uccessful variety - development pro- ram (next to the accumulation and naintenance of an extensive collec- ion of sugarcanes and related gen- ra) is the production of adequate uantities of viable true seed from wide range of crosses involving a areful selection of parent canes. hese must include, specifically or ategorically, clones of special sig- ificance genetically, clones of "elite" ommercial calibre, and clones with "combining ability" to transmit, in ome measure, disease resistance, igh sucrose, natural self-stripping of eaves, acceptable barrel diameter, xceptional vigor, insect resistance, old tolerance, resistance to inver- ion, and good millability features uch as low fiber and high juice qual- ty. Limited application of the poly- ross technique of hybridization will e effected under controlled climatic onditions to objectively encompass in a single operation an extensive range of germ plasm embodying select parental sugarcane varieties.

It is obvious that the greater number of high-quality seedlings included in a variety-development program, screened efficiently and tested extensively at different stages under a variety of environmental conditions, the greater become the probabilities for discovery of increasing numbers of better-quality clones both for breeding and for the industry.

Review

The Canal Point station was established in 1918. In 1925 Brandes and Klaphaak (1), in a comprehensive publication relative to initial cane-breeding activities at Canal Point, outlined definite plans of species hybridizations to develop disease - resistant, cold - tolerant sugarcane plants for commercial sugar and sirup production in the Gulf States. These plans, originally outlined in the winter of 1923-24, need little change even today, and basically are

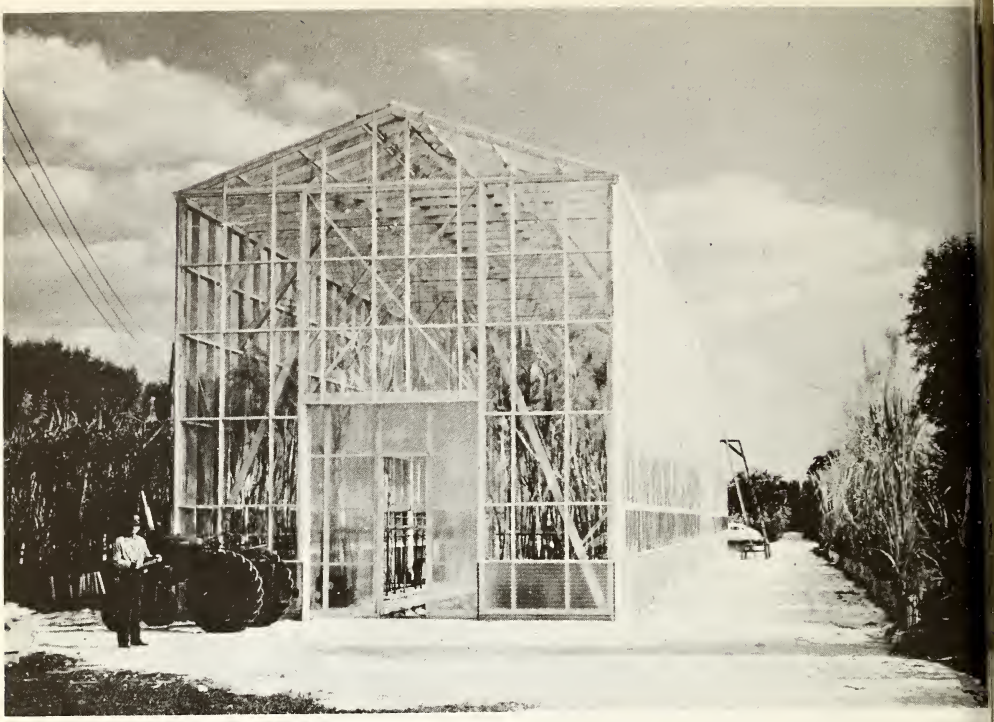


Fig. 2. New plastic crossing house.

still being followed in our present breeding operations at Canal Point.

From true seed produced at Canal Point prior to 1928, one commercial cane, C.P. 807, was released for sugar production in Louisiana. No record of the number of original C.P. seedlings set out in the fields between 1918 and 1928 is available. In referring to this period, Brandes and Sartoris (5) stated, "During the first 10 years the breeding work (at Canal Point) was dominated by economic considerations and the need to produce quickly a new cane to replace the old noble varieties D. 74 and Louisiana Purple, which had failed largely because they were susceptible to mosaic, root rot, and red rot****. Beginning with 1928, however, a definite system of crosses was initiated with the purpose of building up breeding stocks of known constitution. Essentially, this is a program of crossing, backcrossing, and selfing, accompanied by selection, in an effort to improve varieties of sugarcane without interfering with thei behavior in hybrid combination. Th plan is intended to accomplish thi by combining the favorable factor from two or more varieties into a single variety."

Between 1928 and 1948, 1,402 bi parental sugarcane crosses, involvin thousands of female tassels, were made at Canal Point. From these crosses and from selfed tassels, 220,- 376 C.P. seedlings were transplanted singly to the fields of the U. S Sugarcane Research Stations at Canal Point, Florida, and Houma, Louisiana; 3,333 were given permanent C.P. numbers; and 23 met minimum standards for commercial release in Louisiana, Florida, and the sirup-producing areas of the Gulf States. This represents a ratio of one commercial variety released for every 9,581 original C.P.-bred seedlings screened after reaching the field. During this period, 21,124 original seedlings were grown as single stools at Canal point from seed of 471

Fig. 3. Outdoor "field" cross.

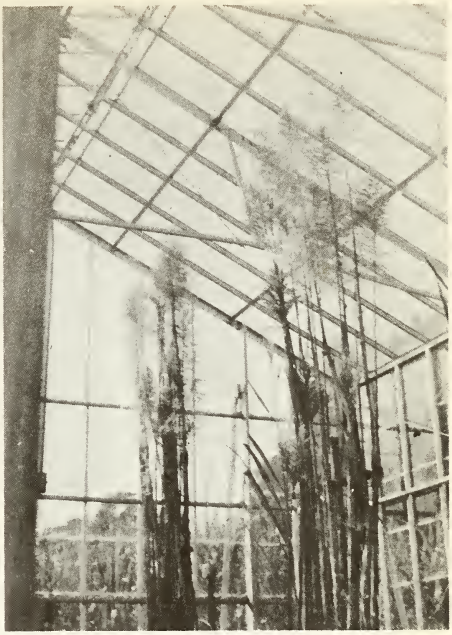


Fig. 4. Crosses made in the greenhouse.

rosses made in the Panama Canal one, in Puerto Rico, and Colombia, outh America. From these seedngs, 2 "C.P." commercial releases ere made, C.P. 34-92 and C.P. 34-20; the latter was an important comercial variety in Louisiana until its ecline during the early years of the resent decade. The tremendous imact which the C.P. varieties had pon the recovery and sound reestabishment of the Louisiana sugar industry is a well-chronicled series of istorical facts and need not be reterated here. It is well to mention t this point, however, that these earlier advances, under the adverse circumstances into which the Lousiana sugar industry had fallen, were relatively spectacular, but as higher limits of production are being approached, progressive advances will very likely be of a less imposing nature.

A very substantial increase in tons of cane and sugar per acre will undoubtedly be realized in the Louisiana Sugar Belt when the industry in that State becomes mechanically equipped to harvest efficiently the big-barrel, early high-sucrose, high-tonnage types which lodge. Such types have been largely unacceptable during the last 20 years because of the exacting demands of the industry for erect varieties of sugarcane adaptable to the types of mechanical harvesters in use since 1939. Abbott (8) points out that since the mid-1930's, because of a diminishing labor supply in Louisiana, sugarcane breeding and selection practices have been conditioned to meet the requirements of machine cutting, which demands erect stools of cane with stalks of uniform height. By 1942, 70 percent of the sugarcane acreage of the State was in varieties with growth habit acceptable for machine cutting. In 1955, 90 percent of the acreage was in varieties that could be successfully cut by machines, and at least a third of that acreage was in varieties that were very uniform in stalk height. At present, impressive advances are being made in development and manufacture of improved harvesting machines which exhibit a high degree of efficiency in handling lodged cane. Lauden (9)

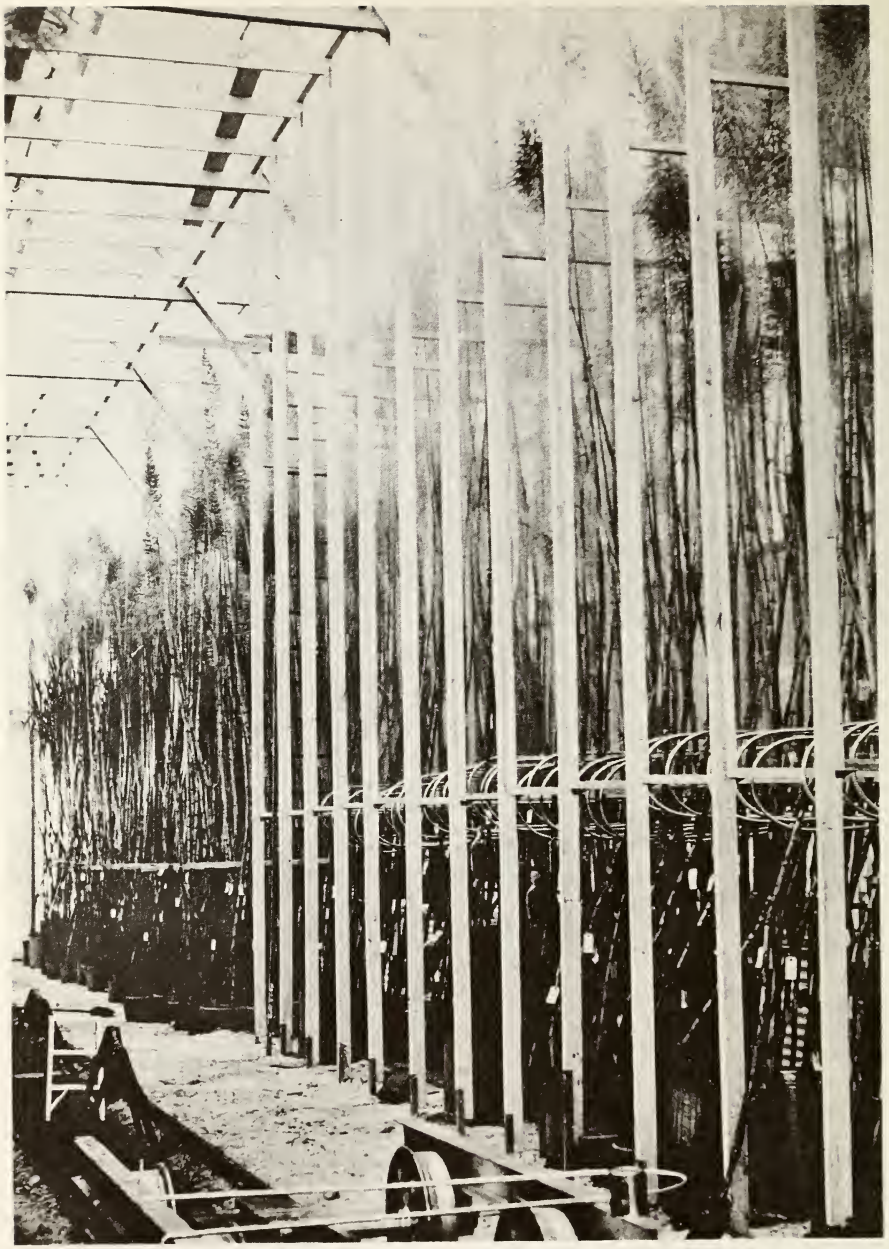


Fig. 5. Crosses made in cubicles of the plastic crossing house.

in 1957, and on numerous occasions previously ("In the Field with Lloyd Lauden"), called widespread attention to the feasibility of the Louisiana sugar industry becoming adjusted to grow varieties of sugarcane which do not meet present standards for erectness. In Lauden's opinion, "it will be very difficult to develop a variety for Louisiana which will produce more than 35 tons of cane per acre State average, without substantial lodging. Since economic factors will probably make it neces-

Fig. 6. Moss airlayers in plots of breeding canes tied upright with bamboo poles.

Fig. 7. Soil marcotts in plots of breeding canes tied upright with bamboo poles.

sary that Louisiana produce much higher yields in the future, it appears that growers must accept varieties which lodge to some extent."

Breeding and selection practices designed to supply the sugar industry with only non-lodging varieties of cane arbitrarily places severe restrictions on the range of selectivity and ultimate productivity. Erect varieties of sugarcane, particularly those where a short growth cycle is required (as in Louisiana) tend to encompass many of the commercially undesirable features of the *S. spontaneum* genotype: thinness and light weight of stalks, pithiness, poor quality and quantity of juice, clinging leaves and sheaths, hard rind, high fibre, and susceptibility to smut (recently reported as far north as Santo Domingo, Fiji disease, red stripe, downy mildew, and some of the leaf-spotting diseases. However, the *S. spontaneum* forms are of great value to sugarcane breeding because of their embodiment of factors (genes) for resistance to mosaic, root rot, red rot, gummosis, sereh, insect damage, and cold injury. These forms also transmit tillering vigor and earliness of maturity.

The restricting demands imposed by selectivity for erectness should be removed as a prime requirement for Louisiana conditions. Removal of this barrier will automatically allow greater freedom of selectivity not only for higher tonnage clones, but also for a wider range of disease and insect resistance, cold tolerance, lower fibre content, and higher sucrose. The scope of utilization of germ plasm is being enlarged to meet the present-day challenge imposed by the engineering of machinery designed to satisfactorily harvest lodged varieties. The extensive collection of *S. officinarium* germ plasm, maintained at Canal point in the form of over 500 distinct clones has scarcely been drawn on for crosses for Louisiana adaptability since its assembly began in 1919. Direct use of noble varieties will now be attempted on a broader scale; germ plasm from this source embodies resistance to smut disease, thickness and heavi-

Fig. 8. Close-up of airlayers and marcotts in a single plot.

ness of stalks, low fibre, excellent juice quality and quantity, high sucrose, high tonnage, broad leaves, and other desirable characteristics esteemed in both field and factory. On the other hand, *S. officinarum* is a source of increased susceptibility to mosaic, red rot, root rot, streak, sereh, gummosis, and cold damage: and it is late maturing. Nevertheless, crosses between *S. officinarum* varieties and select bi and tri-species noble hybrids may produce segregates which possess disease and cold resistance, early maturity, and desirable noble features. A wider range of such combinations and large seedling populations therefrom may now be possible by application of the indoor techniques at Canal Point.

Other species of sugarcane, which, in combination with *S. officinarum* and *S. spontaneum* constitute the hybrid nature of our present day varieties, include *S. barberi,* the slender-stemmed canes of northern India: *S. sinense,* also slender-stemmed types, native to China; and *S. robustum,* wild forms of great vigor indigenous to New Guinea and some adjacent islands.

Since 1948, the year which marked the beginning of the expanded effort in the variety-development program, approximately 1,145,650 C.P. seedlings have been transplanted to the fields of the cooperating agencies in Louisiana, Florida, Mississippi and Georgia. To date, from seedlings produced since expansion started, one commercial variety, C.P. 52-68, was released in 1958 for sugar production in Louisiana. No other varieties have been released from these seedlings. However, many hundreds of thousands of these C.P. seedlings are still in various stages of testing and development.

Table 4, compiled from records of the cooperating agencies during the spring of 1959, shows that an overall estimate of 2,076,614 viable seed was received from the 1958 Canal Point crosses. This estimate is slightly higher than the earlier estimate of 1,941,588 viable seed made at Can-

Fig. 9. Soil marcotted canes on racks behind greenhouse.

Point from the same seed lots. f the total number received an es- mated 1,377,271 viable seed were ored in refrigerators or deep- freez- s; 699,343 seed were germinated; 5,611 seedlings were transplanted pots or flats in greenhouses; 170,- 1 were lost through natural death d mosaic infections, or were dis- rded because of lack of greenhouse ace; and 529,082 were set to the elds either singly or in units of 2, 5, 6, or 10 per unit. Initial selec- on and screening on seedlings in the elds is scheduled to begin in the ll of 1960.

rocedures in handling parent material

traight stalks of flowering canes re highly advantageous — in fact, ecessary—to the efficient perform- nce of indoor crosses, especially in arrow isolation cubicles (Fig. 5). n this regard a great deal of effort s expended periodically over a 3- nonth period in advance of the rossing season, in staking and typ- ng upright the standard 8-foot-length plots of special breeding canes. During July, August, and September, 1958, 1,056 plots were staked with large bamboo poles and tied upright with heavy-gauge wire. This technique greatly facilitates the ease, speed, and overall efficiency of air-layering canes with sphagnum moss (Fig. 6) or of marcotting with stove-pipes and soil as shown in Fig. 7. A close-up of both techniques applied to stalks in a single small plot is shown in Fig. 8. Prior to and during the 1958 sugarcane breeding season, 4,100 stalks of selected breeding canes, primarily male-sterile types, were airlayered with sphagnum moss. Approximately 1,000 stalks principally of male-fertile types were soil-marcotted, allowed to root, and moved to racks in a warm protected area in back of the tall glass house (Fig. 9). From this point they were moved indoors for retention of male fertility and ultimate use in cross-pollinations. An additional 200 stalks of breeding canes, airlayered with sphagnum moss immediately prior

Fig. 10. Moss airlayered stalks transplanted to pails of soil.

to floral initiation, were rooted and transplanted soon after initiation to soil-marcot pails and tied to racks near the greenhouse (Fig. 10). This procedure proved very succesful during 1958, wherein timing such as described was considered. On October 27, 1958, when it was relatively certain that floral initiation had occurred, 60 of the transplanted airlayered stalks, involving 11 clones, were moved into the greenhouse. In a short time most began to exhibit signs indicative of blooming. Eventually 50 of the 60, or approximately 80 percent, produced normal panicles under greenhouse conditions. Of the 140 transplants left outside on the racks, 102 flowered, representing 72.8 percent of the total number exposed to the weather.

Summary of 1958 C.P. crosses

Table 1 presents a summary, grouped according to female parents, of the 415 bi-parental combinations comprising the 1958 Canal Point series of sugarcane crosses. In some instances specific combinations involving the same parents are liste several times in sequence. In suc cases each combination has bee treated as a distinct entity becaus of having been made on differer dates and under varying circum stances. It may be seen in this tab that the range of fertility (seed set per tassel among a diversity of th most widely used female clones, wit few exceptions, varied considerabl above and below the averages, ap parently in fairly close associatio with certain male-fertile varieties.

Seed production estimates used i summarizations were arrived at a follows: After drying the collecte female panicles from crosses in a artificial wardrobe dryer for 3 day the fuzz was carefully stripped int large paper bags, and thoroughl mixed by hand. A 1-gram sampl taken at random in 5 or 6 sma pinches, was weighed on a delicat balance calibrated to .01 gram. Th total masses of fuzz were the weighed; weights and dates of plant ing were recorded in a permanen

ecord book. At the end of 3 to 4 ays, the seedlings germinated from ne 1-gram samples were counted and ultiplied by the total number of rams of fuzz in the corresponding rosses. Such germination tests, com- ared with mass plantings of fresh eed, have proven comparatively ac- urate and serve as a reliable guide or determining how densely to pread the fuzz in the seed flats. ermination tests of seed lots, par- icularly those to be grown at loca- ions other than where the seed was roduced, also enable the sugarcane reeder to quickly and accurately valuate and correlate (1) male and emale fertility or sterility under urrent circumstances, (2) environ- nental influences on performance of rosses in relation to seed set, (3) the ffect of different rooting techniques n seed-setting efficiency, and (4) he means to estimate, compare, and nalyze cross-production date from reshly harvested seed prior to de- ays occasioned in transportation, oldovers prior to planting, and cold torage, all of which ultimately, and uite drastically, reduce viability.

Table 2 presents a gross summary f the types of crosses made at Canal Point during the 1958 crossing sea- on. As may be seen in this table, 95 "repeat" crosses, requested by the Sugarcane Breeding Committee for Louisiana, Florida, or the sirup area, produced an estimated total of 691,- 411 viable seed. These particular crosses command special considera- tion because of the exceptional de- sirability of the specific combina- tions, many of which have given un- usually high initial selection rates from small progenies which have been available in the past, or because of outstandingly good combinations involving especially desirable parent types with proven combining ability for attaining specific characteristics in progenies being considered for commercial types of sugarcane. It may also be seen in table 2 that 87 bi-parental crosses, involving high- sucrose females and high - sucrose males, produced an estimated 335,324 viable seed. With few exceptions both parents in these crosses had a sucrose content ranging from 110 to 135 per- cent of C.P. 44-101, the standard va- riety in Louisiana. It is hoped that commercially acceptable, early ma- turing, high sucrose types will be obtained from many of these crosses. Crosses in the third category of table 2 described as "new miscellaneous combinations" were made from spe- cific groups of parent sugarcane clones requested for use primarily by the Sugarcane Breeding Committee. In this category, an estimated total of 914,853 viable seed were produced.

In very recent studies on the breeding behavior of certain agron- omic characters in progenies of Can- al Point sugarcane crosses at Hou- ma, Louisiana, Hebert and Hender- son (11) found that with respect to all characters studied, the general performance of the progeny derived from a cross could be predicted to a reasonably reliable degree from the performance of the parents. There were no instances in which inferior parents produced superior progeny, or superior parents gave an inferior progeny; progenies of crosses involv- ing parents high in Brix were rela- tively high in Brix. These investiga- tors advocate the screening of large numbers of seedlings and the reduc- tion of selection pressure among single stools for certain characters such as number and erectness of stalks. The application of these rec- ommendations, coupled with the vast background of time-tested selection methods and the potentially unlimit- ed supply of true seed of sugarcane now being made available from in- door cross - pollinations at Canal Point, can only imply a forthcoming era of increased efficiency in the dis- covery and development of greater numbers of superior varieties of sugarcane than heretofore realized.

Table 3 lists the seed production at Canal Point during 1958 according to location of crosses. While not con- sistent with results obtained during 1957, no comparison between the 2 years' results is herein intended.

Improved greenhouse management, based on observations and results during 1957, and fewer crosses (involving mostly the early highly fertile types). accounted for greater efficiency in seed set among crosses in this area during the current season. Sufficient humidity was maintained in the greenhouse by opening all doors and ventilators immediately after pollination to allow entry of moist, cooler air. The loss of 5° to as much as 15° F. occasioned by this practice, apparently had no ill effects on seed set. As may be seen in table 3, excellent seed set was also obtained in the polyethylene enclosure, the cubicles of the photoperiod building, and in the new plastic breeding house — in the latter structure in spite of temporarily inadequate heating and utilization of many of the later, more sterile types of clones commonly used for Florida and sirup-area crosses.

In conclusion, it is well to reiterate that the process of transformation from a system of hazardous outdoor sugarcane breeding at Canal Point to the newly revised system of making crosses in a protective indoor environment was finally realized in full measure during 1958. This realization was brought about primarily as a result of the construction of adequate indoor cane-breeding facilities in recent years, made possible through special appropriations of funds by the Congress of the United States and the American Sugar Cane League of the U. S. A., Inc.

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The writer wishes to acknowledge the work accomplishments of Arch F. Blakey and Donald J. Waddell, scientific aides on the sugarcane breeding program at Canal Point.

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WAGE-PRICE HEARING JULY 30th

Notice has been received from ashington that the Wage - Price earing will be held this year on hursday, July 30th in the Grand heater, Thibodaux, La., beginning nine o'clock in the morning. Ward . Stevenson and Charles F. Denny ave been chosen by the Director of he Sugar Division to preside over he Hearing.

We quote below from the official otice calling the Hearing that was ssued in Washington on June 11th.

"In the interest of obtaining the est possible information, all interested persons are requested to appear t the hearing to express their views nd present appropriate data in regard to wages and prices. While estimony on all pertinent points is esired, it is especially requested that witnesses be prepared to offer information and recommendations on he following matters regarding fair rices for sugarcane:

Season's Average Prices for Raw Sugar and Molasses.

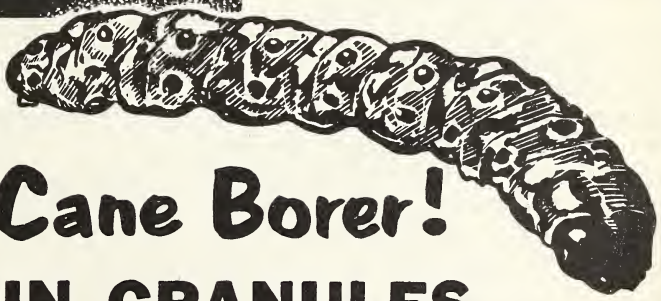
The 1958 crop determination provided the period October 10, 1958 through February 26, 1959 for determining the season's average price of raw sugar or blackstrap molasses. What period will provide an equitable basis for pricing the 1959 crop?

Salvage Sugarcane.

The 1958 crop determination provided that the price for salvage sugarcane be determined in the same manner used by the processor for the 1957 crop or that the processor and producer might agree upon a different method of settlement upon written approval of the Louisiana State Committee. What methods of settlement for salvage sugarcane were used by processors during the 1958 crop and which of the methods is most equitable to producers and processors.

(Continued on next page)

it's the end



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Freight Differentials.

The 1958 crop dtermination provided for deductions from the average raw sugar price upon which sugarcane payments are based to recognize differences in the freight costs for shipping raw sugar from the raw sugar mill to New Orleans refiners. Are the amounts of such freight differentials equitable considering current freight costs on raw sugar?

Frozen Sugarcane.

The 1958 crop determination provided with respect to frozen sugarcane, not otherwise defined as salvage sugarcane, that because of decreased boiling house efficiency deductions could be made from the payment for such frozen sugarcane at rates not in excess of 1.5% of the payment for each .1 cc of acidity above 2.5 cc but not in excess of 4.75 cc. No payment for sugar was required for sugarcane containing acidity in excess of 4.75 cc. Would a tolling arrangement or some other basis be a more practical method of handling frozen sugarcane than applying deductions for excess acidity. If so, what standards should be established?"

—o—

IN WASHINGTON

(Continued from page 228)

captain of the airplane which had been waiting for two hours for this particular passenger, told the immigration people he could wait no longer, and they would have to make up their minds whether or not to permit the American to board the flight, the problem was presented to the senior member of the group, a 17-year old, who shrugged his shoulders and said—"Oh, Hell, let him go".

U. S. Government officials and the U. S. sugar producers, whether they wish Castro well or not, deeply and sincerely wish he would settle down so that Congress can consider the extension of our domestic sugar program.

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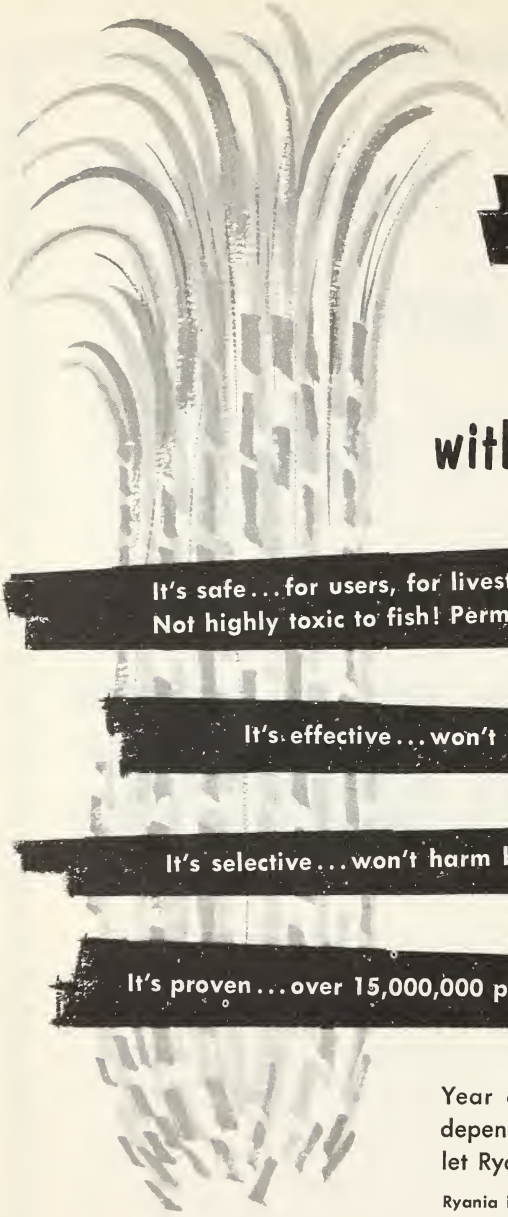

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IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

The Sugar Research Foundation, Inc., has been granted a patent by the U. S. Patent Office on a process for making sugar esters and emulsifiers. According to Dr. H. B. Hass, President of the Foundation, the process consists of linking a molecule of sugar, which is highly soluble in water, to an insoluble molecule of animal or vegetable fat. This process will be used to make detergents which are bland in taste and are odor-free.

The Colonial Sugars Division of the Cuban-American Sugar Company has announced pilot plant production at Gramercy, La. of a detergent made from sugar esters produced under the patent licensed from the Sugar Research Foundation.

Dr. Hass said that in addition to the U. S. patent, the process has been patented in 19 foreign countries.

The United States Department of Justice has been conducting a rather sweeping investigation of the marketing phases of the sugar industry for some time. Information from reliable sources indicates that the investigation is largely to determine whether or not the control of offerings of "offshore" sugar by one of the largest operators in the world constitutes a "monopoly".

Investigators from the Anti-Trust Division of the Department of Justice have been looking into the methods used in acquiring raw sugar in all of the producing areas supplying the United States. The daily New York raw "spot" price on which the price is established on most of the raw sugar purchased for refining in the United States, also is receiving the very close attention of the investigators.

For a long time, under-the-counter, confidential and unreported sales of raw sugar have been subjected to criticism by the sugar trade on the theory that since the spot price affects the pricing of such great quantities of sugar all sales should be required to be reported by the New York Coffee and Sugar Exchange. And this, too, is being investigated.

The investigation was stepped up because of the sudden increase in price last April when increases of approximately $10.00 a ton were made within a week. The price rise was attributed in many quarters to a monopolistic manipulation of the market by a single holder of tremendous supplies of raw sugar, God bless him!

It is generally believed that the U. S. Department of Justice is making this investigation with a view to recommending legislation which would make nationals of foreign countries which supply raw sugar to the United States subject to United States Anti-Trust laws, and also to ascertain to what extent certain foreign nationals who own domestic sugar companies may be in violation of existing anti-trust laws.

EFFECT OF DEPTH OF PLACEMENT OF SEED PIECE AND DATE OF PLANTING ON YIELDS OF CANE AND SUGAR FROM C. P. 36-105 AND C. P. 44-101 AT HOUMA, LOUISIANA

By Leo P. Hebert and R. J. Matherne, Research Agronomists, Crops Research Division, Agricultural Research Service, United States Department of Agriculture

Sugarcane is planted by hand in Louisiana in furrows opened with a tractor plow. Depth at which the seed piece is placed varies from farm to farm, according to the judgment and experience of the individual grower who regulates the opening plow. No experimental data have been reported on placement of seed pieces of different varieties at predetermined depths on different dates in Louisiana. This paper summarizes results of such experiments conducted at the U. S. Sugarcane Field Station, Houma, Louisiana, from 1952 to 1958. Depth of planting refers to the amount of soil used to cover the seed piece and the depth of placement refers to the relation of the seed piece to the surface of the land.

Varieties of sugarcane now grown commercially in Louisiana survive the winter better than those formerly grown. This makes it possible to plant 25 to 50 percent of the acreage on some plantations in August, particularly in the Southern area of the Sugar District. Results of experiments comparing summer and fall planting in Louisiana (2) showed that cane planted in August yielded more than that planted in October or November.

Experimental Methods

Two varieties, C.P. 36-105 and C.P. 44-101, which occupy 66.1 percent of the State acreage of sugarcane grown for sugar (4), and which were the major varieties in Louisiana during the period of this study, were planted at 3 depths on August 1 and October 1 each year from 1952 to 1956. The experiments were conducted on light alluvial soil classified as Mhoon silt loam, which is typical of the better-drained soils of the Louisiana sugarcane area. Seed pieces consisting of whole stalks segmented into lengths of approximately 5 internodes were planted at depths of approximately 2 inches, 6-7 inches, and 10 inches above the bottom of the furrow (middle) on each date. All seed pieces were uniformly covered with 2 to 3 inches of soil. The deepest plantings were earthed-up after emergence of the shoots, to fill the depression on top of the row. Three crops were harvested from each planting, as is commonly done in Louisiana with good stubbling varieties where Johnson grass is not a problem.

All plots were approximately 1/120 acre in size, and each treatment was replicated 4 times each year. The cane was cut by hand, trash was burned after cutting, and the cane from each plot was weighed with a tractor-mounted weighing device.

A 20-stalk sample was taken from each plot and milled in a 3-roller mill to provide crusher juice. Indicated yields of sugar per ton of cane were calculated from samples of the crusher juice in accordance with the Winter-Carp-Geerlings formula, with appropriate reduction factors for each variety as based on a large number of complete milling tests. Arceneaux's (1) simplification of this formula, which takes into consideration differences in milling extraction of different varieties, was employed in all cases.

Experimental Results

Tables 1, 2, and 3 present the total yields of can per acre, in tons, and the indicated yields of 96° sugar per ton of cane and per acre in pounds respectively, for 5 series of plant cane, first-stubble, and second-stub-

Table 1. Effect of date of planting and depth of placement of seed pieces on yield of cane per acre in tests of 2 varieties at Houma, Louisiana, 1952-1958

Variety, month, and depth of placement of seed pieces	Average yield of cane per acre (3-crop total)					
	1952-54	1953-55	1954-56	1955-57	1956-58	Average
	Tons	Tons	Tons	Tons	Tons	Tons
C.P. 36-105						
August: Shallow	79.4	74.1	98.2	77.5	97.9	85.4
Medium deep	74.5	74.6	93.6	82.6	92.6	83.6
Deep	80.4	78.5	95.2	84.3	109.0	89.5
Average	78.1	75.7	95.7	81.5	99.8	86.2
October: Shallow	73.9	80.0	95.8	83.5	113.7	89.4
Medium deep	84.9	74.4	91.4	79.0	111.4	88.2
Deep	84.1	76.1	95.7	75.7	103.0	86.9
Average	81.0	76.8	94.3	79.4	109.4	88.2
C.P. 44-101						
August: Shallow	109.3	103.7	107.0	116.1	102.4	107.7
Medium deep	111.6	102.1	112.9	115.3	109.0	110.1
Deep	116.6	108.2	114.9	120.9	118.9	115.9
Average	112.5	104.7	111.6	117.4	110.1	111.2
October: Shallow	106.0	106.6	116.2	97.8	113.3	108.0
Medium deep	115.6	104.6	115.7	100.2	119.5	111.1
Deep	104.1	100.1	113.6	101.5	117.1	107.3
Average	108.6	103.8	115.2	99.8	116.6	108.8

Difference between dates of planting or between varieties: P .05 = 1.96
P .01 = 2.85

Difference between depth of placement on the same date of planting: P .05 = 2.99
P .01 = 4.93

ble tests of C.P. 36-105 and C.P. 44-101 from 1952 to 1958.

An analysis of variance of the combined data revealed that differences between varieties and series were statistically significant in regard to cane per acre and sugar per ton of cane and per acre. (Statistical analysis not shown.) The average differences between depths of placement for all dates and varieties were not significant for any of the characters measured. Sugar per ton of cane and sugar per acre were significantly higher in plots planted in August than in plots planted in October.

The 2 varieties did not respond alike in all series. This is indicated by the significant interaction for variety x series with respect to cane and sugar per acre and sugar per ton of cane. There were also significant interactions for dates of planting x depths of placement, and for dates of planting x varieties for all three characters studied. For example, yields of August-planted C.P. 44-101 averaged 2.4 tons per series, or approximately 0.80 ton per crop, more than that planted in October in the 5 series. There were some variations between experiments, however, and in the 1956-58 series yields of October-planted C.P. 44-101 surpassed the earlier-planted cane of the same variety by 6.5 tons per series, or an average of 2.2 tons per crop. On the other hand, August planting of C.P. 44-101 in the 1955-57 series resulted in an increase of 17.6 tons, or approximately 6 tons per series over the later planting of the same variety.

Average yields of C.P. 44-101 per series ranged from 0.9 to 17.6 tons of cane per acre in favor of August

Table 2. Effect of date of planting and depth of placement of seed pieces on yields of sugar per ton of cane* in tests of 2 varieties at Houma, Louisiana, 1952-1958

Variety, month, and depth of placement of seed pieces	Average indicated yield of sugar per ton of cane					
	1952-54	1953-55	1954-56	1955-57	1956-58	Average
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
C.P. 36-105						
August: Shallow	189.3	184.8	170.3	192.5	163.7	178.9
Medium deep	192.4	188.7	171.9	184.2	169.1	180.3
Deep	194.3	191.8	175.6	192.5	172.3	184.2
Average	191.1	188.6	172.5	189.6	168.5	181.1
October: Shallow	197.6	189.0	176.3	181.8	168.5	181.1
Medium deep	199.0	186.8	168.0	184.2	165.8	179.5
Deep	195.5	188.4	173.2	181.2	165.4	179.8
Average	197.3	188.2	172.6	182.4	166.6	180.1
C.P. 44-101						
August: Shallow	201.9	191.8	192.6	196.9	177.8	192.4
Medium deep	199.4	185.9	183.1	199.3	172.5	188.4
Deep	198.3	184.3	181.1	197.5	173.9	187.1
Average	199.8	187.2	185.4	198.0	174.7	189.3
October: Shallow	200.2	179.6	179.9	197.4	176.6	186.3
Medium deep	200.8	182.7	170.7	192.0	172.2	183.4
Deep	204.8	178.7	167.0	193.0	167.0	181.5
Average	201.8	180.3	172.5	194.3	171.9	185.1

Difference between dates of planting or between varieties: P .05 = 2.07
P .01 = 3.02

Difference between depth of placement on the same date of planting: Not significant

*Weighted average.

planting in the other 4 experiments. There was an average increase of 2 tons of cane per acre in favor of October planting over August planting of C.P. 36-105, when yields for all depths of placement were averaged. The earlier plantings yielded slightly more cane per acre in 2 of the series and slightly less in 3 of the series.

The response to depth of placement was not the same for the 2 dates of planting. In all cases except one (1954-56 with C.P. 36-105), the deep placement of seed pieces resulted in higher yields than shallow placement for the 2 varieties when they were planted in August. Average yields of cane per acre in favor of deeper placement were 4.1 and 8.2 tons per series for C.P. 36-105 and C.P. 44-101, respectively. On the other hand, the medium-deep placement resulted in higher yields from each of the varieties when planted in October.

In the average of all experiments with C.P. 36-105, there was essentially no difference in yields of sugar per ton of cane between the August planting and the October planting when the plant-cane and first- and second-stubble results were combined. As in yields of cane per acre, the different series did not respond alike, although the differences were not very large. Average yields of sugar per ton of cane from the August planting ranged from 0.1 pound less during the 1954-56 series to 7.2 pounds more during the 1955-57 series, and averaged 1.0 pound more than the October planting. On the other hand, C.P. 44-101 produced cane of higher sucrose quality when

Table 3. Effect of date of planting and depth of placement of seed pieces on yields of sugar per acre in tests of 2 varieties at Houma, Louisiana, 1952-1958

Variety, month, and depth of placement of seed pieces	Average indicated yield of sugar per acre (3-crop total)					
	1952-54	1953-55	1954-56	1955-57	1956-58	Average
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
C.P. 36-105						
ugust: Shallow	15,027	13,691	16,725	14,920	16,026	15,278
Medium deep	14,337	14,075	16,087	15,219	15,658	15,075
Deep	15,636	15,056	16,719	16,224	18,780	16,483
Average	15,000	14,274	16,510	15,454	16,821	15,612
ctober: Shallow	14,603	15,118	16,886	15,179	19,160	16,189
Medium deep	16,895	13,898	15,359	14,549	18,469	15,834
Deep	16,441	14,338	16,573	13,719	17,040	15,622
Average	15,980	14,451	16,273	14,482	18,223	15,882
C.P. 44-101						
August: Shallow	22,073	19,889	20,607	22,859	18,203	20,726
Medium deep	22,258	18,981	20,668	22,985	18,808	20,740
Deep	23,117	19,945	20,811	23,880	20,682	21,687
Average	22,483	19,605	20,695	23,241	19,231	21,051
October: Shallow	21,221	19,145	20,910	19,308	20,005	20,118
Medium deep	23,215	19,110	19,745	19,243	20,572	20,377
Deep	21,324	17,888	18,975	19,610	19,554	19,470
Average	21,920	18,714	19,877	19,387	20,044	19,988

ifference between dates of planting or between varieties: P .05 = 324
P .01 = 471

ifference between depths of placement on the same date of planting: P .05 = 562
P .01 = 817

lanted in August, as evidenced by he generally higher yields of sugar er ton of cane. In the 1952-54 ser- es, the August planting yielded 2 ounds of sugar per ton of cane less han the October planting, but in the ther 4 series August plantings pro- luced cane of better sucrose quality. ugust-planted cane averaged 12.9 ounds of sugar per ton more than he October-planted cane in the 1954- 6 series and 4.2 pounds more in the verage of the 5 series. Advantages f summer planting for increasing ugar yields were greatest in the lant-cane crop (data not shown).

With C.P. 36-105, yields of sugar er acre for the August planting ere 270 pounds less than for the ctober planting in the average of ll tests. The year-to-year variation anged from 1,402 pounds less in 956-58 to 972 pounds more in 1955-57 than the average, which was 270 pounds less for the August than for the October planting. On the other hand, C.P. 44-101 produced more sugar per acre when planted in August in all series except 1956-58, when the October-planted cane outyielded the August planting by 813 pounds. The average increase in favor of summer planting was 1,063 pounds for the 5 series, or approximately 354 pounds per year.

Table 4 summarizes data presented in Table 1 for yields of cane and sugar per acre. Treatment effects for depth of placement and date of planting and their interactions were statistically significant, and certain trends were established for depth of placement of seed piece. Generally, deep placement in August and shallow or medium-deep placement in October gave highest yields. In the

Table 4. Summary of results of tests conducted during the period 1952-58 at Houma, Louisiana, to determine the effect of date of planting and depth of placement of seed pieces on yields of two varieties of sugarcane

Month and depth of placement of seed pieces	Average yield of cane per acre (3-crop total)				Average indicated yield of 96° sugar per acre (3-crop total)			
	Varieties		Average	Percent of mean	Varieties		Average	Percent of mean
	C.P. 36-105	C.P. 44-101			C.P. 36-105	C.P. 44-101		
	Tons	Tons	Tons		Pounds	Pounds	Pounds	
August: Shallow	85.4	107.7	96.5	98	15,275	20,726	18,000	99
Medium deep	83.6	110.1	96.8	98	15,075	20,740	17,907	99
Deep	89.5	115.9	102.7	104	16,483	21,687	19,085	105
Average	86.2	111.2	98.7	100	15,611	21,051	18,331	101
October: Shallow	89.4	108.0	98.7	100	16,189	20,118	18,153	100
Medium deep	88.2	111.1	99.6	101	15,834	20,377	18,105	100
Deep	86.9	107.3	97.1	99	15,622	19,470	17,546	97
Average	88.2	108.8	98.5	100	15,882	19,988	17,935	99
Average of all treatments	87.2	110.0	98.6	100	15,746	20,519	18,133	100
L.S.D. 0.05	4.82	4.82	2.99	3	795	795	562	3
0.01	6.88	6.88	4.93	5	1,156	1,156	817	4

average of all tests with the 2 varieties, the deep placements in August yielded 6 percent more cane and 6 percent more sugar per acre than the shallow placements. Table 1 shows that in the 1954-56 series, deep placement of C.P. 36-105 in the summer yielded slightly less cane per acre and approximately the same amount of sugar per acre as the shallow placement. Response to deep placement of the seed piece in the summer was more consistent with C.P. 44-101. Without exception, yields of cane and sugar per acre were higher from deep placements than from medium-deep or shallow placements. The response of C.P. 44-101 to depth of placement was different in the fall; shallow and medium-deep placements gave higher yields than deep placement of cane planted in October.

Discussion of results

Planting of a certain percentage of the sugarcane crop in early August is an established practice in some areas of the Louisiana Sugar District. Present-day varieties, being complex hybrids derived partly from wild sugarcane, are able to survive the winter in much better condition than the noble varieties grown many years ago when it was common practice to windrow seed cane in the fall for planting the following spring. Research has demonstrated the superiority of these newer varieties in their ability to survive the winter and to respond to summer planting (2). C.P. 44-101 and C.P. 36-105, discussed in this report, were not included in the previous study but results are in good agreement with the earlier data.

The advantages of summer planting will have to be weighed against the disadvantages. One important consideration in planting sugarcane in the summer is the larger acreage of seed cane required to plant a given acreage. Stalks of cane are considerably shorter in August than they would be 60 days later, and the harmful effects of early cutting of seed cane for summer planting or succeeding stubble crops are often quite pronounced. This is especially true when the plant cane crop is used for seed cane. The emphasis on control of the ratoon stunting disease by use of heat-treated cane has caused more and more growers to use the plant cane crop as a source of seed cane. Cane planted in August germinates rapidly; the young plants also grow rapidly, depleting the reserve food supply of the seed piece. Should an early freeze kill the above-ground growth after the food supply of the cane has been exhausted, and before the new shoots develop root

stems and adequate stored food pplies, stands of cane may be ad- rsely affected. This condition oc- rs infrequently, however, and since is impossible to predict the date the first freeze it is considered a od farming practice to plant 25 to percent of the acreage in August.

Another consideration is the effect summer plant cane on the borer opulation. Surveys in the State ow that fields of summer plant ne in an advanced stage of devel- pment are a source of borer infes- tion (5).

There are, however, certain impor- nt advantages in the practice of lanting sugarcane in August. Bet- r use is made of the farm labor upply. A much smaller crew will be equired if the planting season can e spread over 8 to 10 weeks rather han 4 weeks. Another advantage hat partially compensates for the horter cane at that time, is the igh germination of buds on the im- nature stalks. Consequently a good tand can ordinarily be expected with ess planting material. Summer plant ane is usually much more mature at harvest in the plant cane year and produces more sugar per ton of cane during the first year than cane plant- ed in the fall. In the absence of late spring freezes unshaved summer plant cane is able to compete more effectively with the early - summer weed population. This results in con- siderable economy in weed - control costs.

Although results from the depth- of-placement tests varied to some ex- tent from year to year, certain defi- nite trends were established. These data show that the seed piece should be placed deeper in the summer than is the usual commercial practice at present. The common practice is to place the seed piece 2 to 3 inches below the top of the row. Results of our experiments show that on the better - drained light soil the seed cane can be placed substantially deeper if provision is made for ade- quate drainage. Advantages of the deeper placement are protection of seed cane from freezing and from damage by cultivating implements. It should be emphasized that the seed piece should be covered with only 2 or 3 inches of soil. Later in the fall more soil should be added, to fill the top of the row and protect the seed cane from cold. This excess cover- ing must be removed in the spring. It is of interest to add that following the severe winter of 1957-58, deep summer planting of C.P. 44-101 gave poor stands in the spring of 1958 when the excess soil was not removed (data not shown).

On the heavier, poorly drained soils, it is important to place the seed cane relatively closer to the sur- face. Shallow placement of fall (Oc- tober) plant cane produced more cane and sugar per acre than the deep- planted cane but the medium-deep placement (6 inches above the fur- row) gave the best results. Results of these experiments with October- planted cane are in good agreement with results of earlier field trials conducted at this station with vari- eties grown several years ago (3). It was recommended at that time that the seed piece be placed 6 inches above the furrow (middle) on the lighter soils and slightly higher than 6 inches on the heavier soils. High ridges of 12-14 inches were recom- mended for optimum yield.

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Florida Wage Rates Announced

The U. S. Department of Agriculture on June 29 announced its determination of "fair and reasonable" wage rates for workers employed in the production, cultivation and harvesting of sugarcane in Florida. The determination became effective on July 1 and will continue in effect until amended, superseded, or terminated.

The new rates are 90 cents p hour for tractor drivers and oper tors of other mechanical equipme and 80 cents per hour for all oth workers. These rates are 10 cen per hour higher than those esta lished for the 1958-59 period.

Workers employed on a piecewo basis must be paid wages for ea pay period high enough so that the average hourly earnings are not le than the prescribed hourly rate Most unskilled field york is pe formed on a task or piecework bas and such workers generally earn sul stantially more than the minimu hourly rates. Skilled workers hav usually been paid by the hour a rates in excess of those establishe by the determinations.

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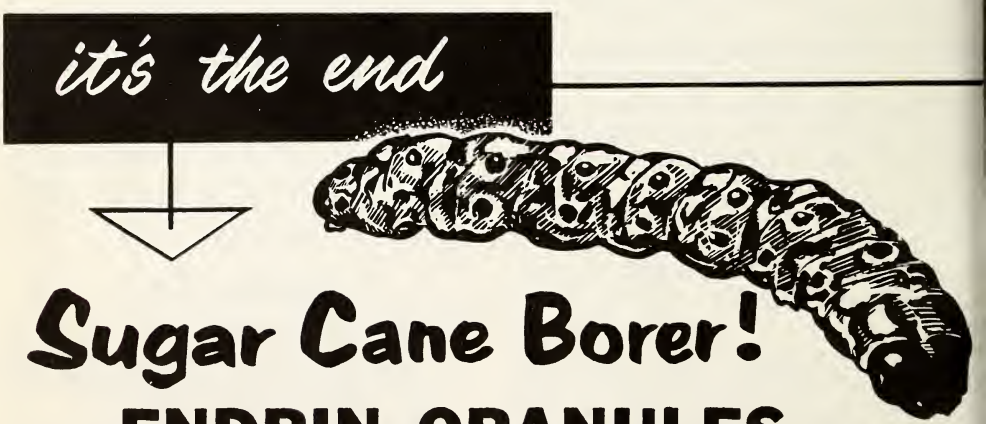

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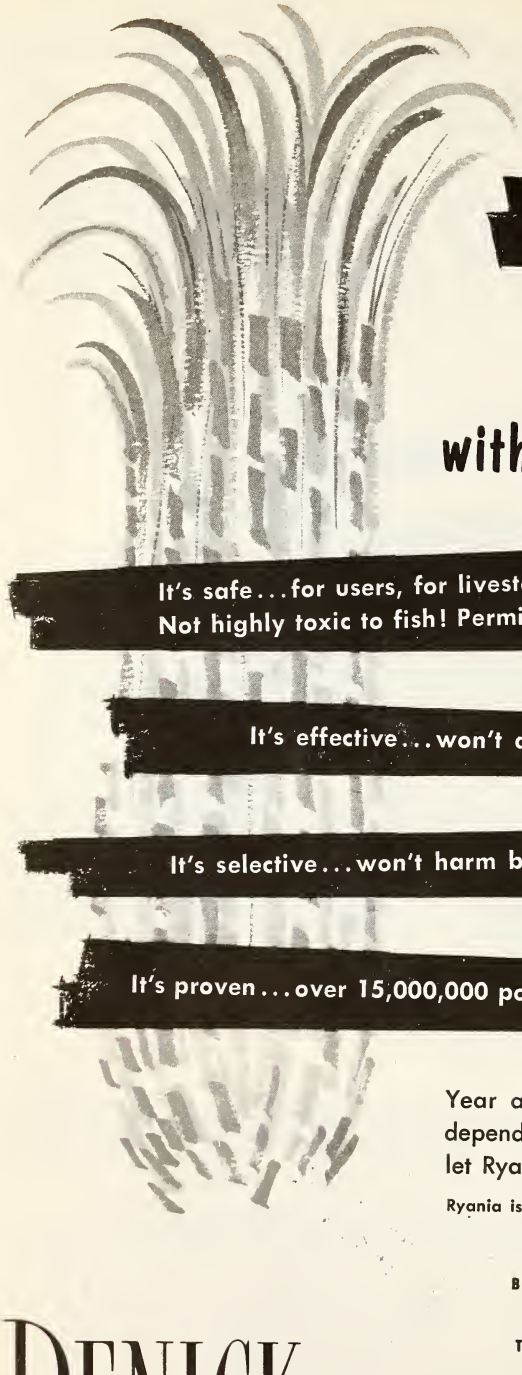

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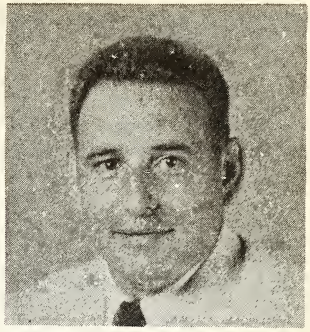
IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden



Planting Time

Many growers are about to begin lanting cane, one of the most imortant operations in the production f a cane crop. The job done in this peration will affect yields not only n the plant cane crop of 1960 but n the stubble cane crops to come. Every care should be taken to do this ob as nearly perfect as possible.

Experiments conducted by Dr. Leo Iebert and Mr. Rouby Matherne of he U.S.D.A. Houma Station show hat the varieties of today have the bility to survive the winter and repond to summer planting better han the varieties of many years ago. The experiments show that there are oth advantages and disadvantages o August planted cane; but taking ll facts into consideration it is a ood farming practice to plant 25 to 0 per cent of the cane in August.

August planted cane will usually roduce more cane and sugar in the lant cane crop. Unshaved August lanted cane will usually do a more ffective job of competing with early veeds during years when late spring reezes do not occur. By planting a ercentage of the cane in August etter use is made of the labor supply. The planting season can be pread over a two month period ather than the one month period. This will allow the regular laborers n the farm to work a greater numer of days.

The disadvantages of August plantng must also be considered. One imortant consideration is the larger creage required for seed because of he shortness of stalks for planting in August. Early cutting of seed usually has a harmful effect on the succeeding stubble crop particularly when plant cane is used for seed. If an early freeze kills the above ground growth of August planted cane before the new shoots have developed a root system, stands in some years may be adversely affected. Fortunately this does not happen often and because it is impossible to predict with any degree of accuracy the dates of the freezes, it is still considered a good practice to do some August planting.

There are a few important things to remember when planting cane regardless of the time of planting. It is always a good idea to allow the seed bed to firm. Cane planted in a freshly prepared seed bed which is followed by a drought usually dries out. The results are poor stands. Growers should check seed cane from time to time to see that it is properly cut. Plant cane, not top leaves. Avoid planting badly borered cane. Check the planting crew regularly to see that seed is being placed in every linear foot of row. Do not plant gaps. Too often speed is the by-word. Take the time necessary to do the job correctly. End of rows should be given special attention when planting and covering.

Special attention should be given to covering cane at planting time. Too often cane is covered with too much soil. Too much cover is responsible for many poor stands each year. It is very easy to apply too much soil

(Continued on page 284)

DISEASES IN RELATION TO VARIETY PLANTINGS IN 195

By E. V. Abbott, Plant Pathologist, Crops Research Division, Agricultural Research Service, United States Department of Agriculture

Mosaic

The development of a high percentage of mosaic infection in N. Co. 310 and considerable spread of the disease into the hitherto resistant C. P. 44-101 in two areas of the sugar district, resulting from the appearance of a new strain of the virus,[1] have brought numerous inquiries from growers as to whether there are varieties available that are resistant to this strain. Surveys for mosaic in commercial fields made during May and July by pathologists of the Houma station, county agents, and Lloyd Lauden of the American Sugar Cane League, confirm the statement made in the May 1 issue of The Sugar Bulletin [2] that high percentages of infection occur only in certain areas along Bayou Lafourche and the Lower Mississippi River. The excellent campaign of instruction in mosaic recognition and roguing carried out by the Agricultural Extension Service has served to acquaint growers throughout the district with the mosaic problem.

Table 1 lists the 8 released varieties that are recommended to growers in Louisiana,[3] with the maximum mosaic percentage that has been recorded in them at the Raceland test field, where all varieties planted in replicated plots have been exposed to heavy mosaic spread during the past 4 years, and in commercial fields. Two of these, C.P. 36-13 and C.P. 47-193, have shown a few stools of mosaic in the test fields, C. P. 44-155 a low percentage, and none has shown more than a trace of infection in commercial fields in the Bayou Lafourche - Mississippi River areas, where they have been exposed to heavy spread. Growing a larger acreage of them would undoubtedly diminish the mosaic problem, but before substituting them for the higher yielding C. P. 44-101 or N. Co 310, which together now occupy 6 percent of the State acreage,[4] certai disadvantages of the varieties mus be considered. A decision should b based on a grower's own experienc with them, or on their performanc in his area on similar soil types.

Table 1. Maximum Percentage Mosaic in Present Commercial Varieties, Houma Station Records

Variety	In Test Fields	In Commercic Fields
C. P. 36-13	2	Trace [1]
C. P. 36-105	11	25
C. P. 44-101	32	75
C. P. 44-155	18	Trace
C. P. 47-193	2	Trace
C. P. 48-103	10	10
C. P. 52-68	43	35
N. Co. 310	59	90

[1] Trace is less than 1%

C. P. 36-13 and C. P. 44-155 ar recommended only for light wel drained soils.[3] Both have given goo results in the Raceland area wher mosaic is a problem, and they ar higher in sucrose content than C. P 44-101. However, they average 7 an 11 percent, respectively, less suga per acre than C. P. 44-101 in the test fields in the Bayou Lafourche Mississippi area.[5] If they were sub stituted for either C. P. 44-101 o N. Co.310, it should be a temporar measure to reduce the mosaic hazard and not with the expectation of a immediate gain in sugar productio per acre.

C. P. 47-193 has yielded only percent less sugar per acre on ligh soils, and 2 percent less on heav soils, than C. P. 44-101 in the 5 tes fields in the Bayou Lafourche-Mis sissippi River areas.[5] From th standpoint of mosaic control it woul be an excellent substitute for sus ceptible varieties. However, becaus of relatively high sucrose inversio

rating (4.7), it does not keep as well between cutting and milling or after a freeze as other commercial varieties. This fact must be taken into account in considering expanding the acreage of it.

C. P. 48-103 has shown a maximum of only 10 percent mosaic infection under conditions of heavy exposure to spread. The spread into it has been at a rather slow rate so that the disease could probably be controlled by roguing. This variety matures earlier than any other commercial variety available in Louisiana, and gives high yields of sugar per ton of cane in early October. While producing 11 percent less cane per acre than C. P. 44-101 at the test fields in the Bayou Lafourche-Mississippi River areas, it has been 8 percent above that variety in yields of sugar per acre on light soils. Its principal disadvantage is that it does not compete as well with weeds as other varieties. Growers with a mosaic problem in C. P. 44-101 or N. Co. 310 might well consider planting a portion of their light soil acreage of these varieties with C. P. 48-103.

Rate of Spread of Mosaic

Study of the rate of spread of mosaic in the spring of 1959 in the 3 commercial varieties presently affected, N. Co. 310, C. P. 44-101 and C. P. 52-68, has confirmed the previous observation [2] that the disease spreads more rapidly in N. Co. 310 than in the other varieties. At Raceland, where mosaic became prevalent in commercial fields of N. Co. 310 and C. P. 44-101 from 1956 to 1958, mosaic-free seed cane of C. P. 44-101 was obtained from another plantation in the fall of 1957 and rogued in 1958 as a source of seed cane for planting that fall. In April 1959 detailed surveys in the cane grown from this seed showed an average of only 1 percent mosaic infection, and by late June this had increased to an average of only 1.5 percent. In C.P. 52-68, from which a trace of mosaic was rogued in the spring of 1958, there was an average of 7 percent infection in April 1959 in the cane grown from the rogued seed cane, and this increased to 9.5 percent by late June. Mosaic in N. Co. 310 under the same circumstances, increased from a trace in the spring of 1958 to more than 40 percent by late June, 1959.

Where mosaic has become generally prevalent on a plantation, with infection in the neighborhood of 25 percent or more, it will be difficult to control the disease by roguing, if N. Co. 310 is continued in the planting program. Although moderately to heavily mosaic-infested cane of this variety may give satisfactory yields of cane and sugar, and perhaps higher yields than other varieties that might be substituted for it, growing it will increase the difficulty of controlling mosaic in other varieties, particularly in C. P. 52-68.

C.P. 52-68 has led all other released varieties in yields of sugar per acre in the average of results from the test fields in the Bayou Lafourche, Mississippi River, Bayou Teche, and Lafayette areas.[5] It is therefore desirable to take advantage of its good qualities, which include high yields of cane and sugar, adaptability to machine harvesting, resistance to red rot, and better than average tolerance to stunting disease. However, mosaic markedly reduces its yields.[2] Some mosaic has appeared in C. P. 52-68 in all parts of the district this spring, and where it has been planted near other varieties that are heavily infected, spread into it has been too rapid to expect success with roguing. In the western and northern areas of the sugar district, and those portions of the southwestern area where mosaic has not become prevalent, it is hoped that the disease can be controlled by roguing. Every effort should be made to do so.

Chlorotic Streak

Since C. P. 29-320 was discontinued as an important commercial variety in Louisiana, chlorotic streak has not been prevalent. The principal

(Continued on page 283)

PROCESSING OF NEW COMMERICAL AND UNRELEASED SUGARCANES--RESULTS OF CLARIFICATION EXPERIMENTS DURING THE 1958 SEASON

By W. F. Guilbeau, E. E. Coll, and L. F. Martin, Southern Regional Research Laboratory,[1] New Orleans, Louisiana.

Experiments designed to compare the results of clarification of juices of unreleased and new commercial sugarcanes were carried out for the ninth consecutive season in the small clarification pilot plant operated by the Southern Utilization Research and Development Division in the Audubon Factory of Louisiana State University. These experiments, together with milling tests conducted in the Audubon mill under the supervision of Professor A. G. Keller, provide data required by the contact committee of the American Sugar Cane League for consideration in determining suitability of new canes for release to growers, and as a guide for processors and growers jointly in expansion of commercial planting of the canes introduced most recently in the Louisiana crop. The American Sugar Cane League again provided the cane required for the experiments. Milling data as well as the juice required for the clarification experiments were obtained by Louisiana State University incidental to an investigation of improved procedures for sampling sugarcane under a research contract with the Agricultural Marketing Service. Procedures used in the clarification experiments have been described completely in reports of similar investigations for 1957 (1), and prior years.

Sugarcane varieties processed. The contact committee transferred C.P. 52/68 from the category of unreleased to that of a new commercial cane by approving distribution of this variety for planting in the Fall of 1958 (2). Preliminary milling and clarification experiments in the pilot plant with plant cane only of this variety had shown that it does not differ significantly from the standard C.P. 44/101 in milling and processing efficiency (1). Inferior juic clarity observed in these limited tes and other processing qualities ma improve in more complete evaluatio including experiments with stubb cane. The committee decided simu taneously that C.P. 52/67, which ha given distinctly poor results in mil ing and clarification as well as disa pointing tests on secondary field should be dropped from the fiel testing program, while only stubb of C.P. 52/57 would be retained fc limited further testing at secondar stations in the Bayou Teche area onl This eliminated the three unrelease canes on which work was begun i 1957. It was agreed that furthe pilot plant experimentation shoul be carried out on C.P. 52/68 as a ne commercial cane.

Unreleased variety C.P. 51/21 ha given promising results in secondar field tests, but its low milling facto has raised doubt about its suitabilit for efficient grinding. Two sample of stubble and two of plant cane o this variety were included, to chec particularly its milling characteris tics on the scale of the Audubo tandem and, as juices were availabl from these samples, they were pr cessed through the pilot plant clar fication. This cane had not bee planted at St. Gabriel so that it wa necessary to use stubble cane sample furnished from Smithfield Plantatio and plant cane from Hope Plantatio for tests. Juices from cane grown i such different localities are not strict ly comparable in clarification wit those of the stubble and plant can of the standard C.P. 44/101 grow at St. Gabriel, but factors determine in grinding the canes are adequat for the purpose for which the millin tests were carried out.

Acreage of N.Co. 310 has increase

apidly since it was released in 1954 nd it is the cane most likely to re- lace C.P. 44/101 as the standard n agronomic and pilot plant proces- ing tests. Both stubble and plant ane of this variety were available at t. Gabriel in sufficient quantities or four milling and clarification ex- eriments with each kind of cane. The sual four tests of stubble and four f plant cane of C.P. 44/101 were ncluded as the standard for compari- on in the present series of experi- nents.

Growing and harvesting conditions. The cane at St. Gabriel was affected ess than the commercial crop gen- rally by the late spring start and spotty growth. Stands of the canes elected for these tests were good to excellent when inspected at the end of September. Weather conditions during the harvest were the most favorable experienced in any recent year; this was particularly true at St. Gabriel as shown by the tempera- ture and rainfall data in Figure 1. The total rainfall was only 2.2 inches, distributed fairly evenly throughout the harvesting period with no heavy rains. The minimum temperature did not reach freezing at any time and frosts were so light that none of the cane used was affected.

Weather data in Figure 1 did not apply to the samples of C.P. 51/21, but favorable conditions prevailed throughout the cane belt during the season so that these canes also es- caped any effects of adverse harvest- ing conditions. The stubble cane of C.P. 51/21 from Smithfield Planta- tion had a higher percentage of leaves and trash than that of plant cane from Hope Plantation or the samples from St. Gabriel. This is attributable to less complete stripping and top- ping, as all samples were harvested by hand.

Dates on which the different canes were harvested are indicated at the top of Figure 1. Two samples of a particular cane were harvested on each date to be processed on succes- sive days. The schedule was arranged so that pairs of samples of plant or of stubble cane were alternated in being processed within 24 or within 48 hours after they were cut. One pair of samples of each variety was harvested early and the other later during the period of harvesting stub- ble canes, and a similar schedule was arranged for the samples of plant canes, except in the case of C.P. 51/- 21. As only one pair of stubble cane and one of plant cane of this variety were available, they were harvested and processed about midway through the period during which each type of cane is normally harvested.

Juice purities. Purities of the di- lute and clarified juices are given in the last two columns of Table I and show the effect of the very favor- able weather resulting in high puri- ties experienced throughout most of the 1958 crop. This is more evident in the purities of plant cane samples from both St. Gabriel and Hope Plan- tations than in stubble of the same canes processed during the first half of the season. The stubble of stand- ard cane C.P. 44/101 yielded juice of consistently low purity from the pair of samples harvested early in November as well as from those har- vested in October. The highest av- erage purities were obtained in juices of both the stubble and plant canes of N.Co. 310, with the newest variety C.P. 52/68 a close second. The purity developed in unreleased variety C.P. 51/21 was almost equal to that of C.P. 52/68. Average purities may be compared more readily in the graph of Figure 2, showing the results sep- arately for stubble and for plant canes.

Lime consumption. Quantities of lime required to bring the pH of all juices to 6.6 as nearly as possible are given in Table II, and average re- quirements are shown in Figure 4 for stubble and plant cane experi- ments. Unusually large quantities of lime were necessary for clarification of both kinds of cane of C.P. 44/101 this season; clarification of juices of this cane has required more nearly normal quantities of lime in previous experiments. Juices of both stubble

TABLE I. 1958 VARIETY PROCESSING EXPERIMENTS -- CLARIFICATION CONDITIONS AND PROCESSING RESULTS

Date Milled	Cane Variety 1/	Run No.	Trash, % of Cane	Dilute Juice pH	Limed Juice pH	Defecated Juice pH	Defecated Juice Clarity 2/	Apparent Purities of Juice Dilute	Apparent Purities of Juice Defecated
10/23	CP 44-101S	3	6	5.6	7.3	6.55	45	71.1	73.9
10/24	"	4	4	5.5	7.4	6.6	46	69.8	71.7
11/6	"	11	5	5.6	7.4	6.6	47	70.9	72.0
11/7	"	12	9	5.6	7.4	6.6	48	71.5	74.2
		Average	6	5.6	7.4	6.6	46	70.8	73.0
10/28	CP 51-21S 3/	5	10.5	5.65	7.35	6.5	17	75.2	77.3
10/29	" 3/	6	18.0	5.65	7.35	6.5	19	74.7	77.0
		Average	14.2	5.65	7.35	6.55	18	75.0	77.2
10/21	CP 52-68S	1	6	6.0	7.3	6.7	27	75.0	77.9
10/22	"	2	4	5.9	7.3	6.7	21	75.7	76.7
11/4	"	9	6	5.7	7.3	6.55	32	77.6	76.8
11/5	"	10	6.5	5.7	7.3	6.6	45	77.7	79.9
		Average	5.6	5.8	7.3	6.65	31	76.5	77.8
10/30	NCO 310S	7	5	5.65	7.4	6.6	34	78.5	78.0
10/31	"	8	9	5.6	7.4	6.6	37	76.5	78.6
11/11	"	13	4	5.65	7.35	6.6	34	81.1	82.9
11/12	"	14	6	5.6	7.4	6.6	45	81.1	82.1
		Average	6	5.65	7.4	6.6	37	79.3	80.4
11/20	CP 44-101P	19	3	5.9	7.25	6.6	37	77.6	77.0
11/21	"	20	2	5.5	7.35	6.6	51	76.6	77.8
12/9	"	27	5	5.5	7.4	6.7	43	77.7	78.3
12/10	"	28	5	5.55	7.4	6.7	47	77.2	77.8
		Average	3.8	5.6	7.35	6.65	44	77.3	77.7
12/2	CP 51-21P 4/	23	5	5.65	7.3	6.65	7	83.3	84.4
12/3	" 4/	24	3	5.55	7.3	6.55	22	82.0	82.5
		Average	4	5.6	7.3	6.6	14	82.6	83.4
11/13	CP 52-68P	15	4	5.6	7.35	6.65	39	81.7	83.3
11/14	"	16	2.5	5.6	7.3	6.6	32	81.0	83.0
12/4	"	25	5	5.5	7.4	6.65	31	83.1	85.1
12/5	"	26	4	5.5	7.45	6.65	42	82.5	85.6
		Average	3.9	5.55	7.4	6.65	36	82.1	84.2
11/25	NCO 310P	21	5	5.7	7.25	6.6	47	83.0	84.0
11/26	"	22	6	5.7	7.25	6.6	47	81.2	82.4
12/11	"	29	3	5.7	7.45	6.65	46	82.0	82.3
12/12	"	30	6	5.6	7.6	6.7	47	83.3	85.5
		Average	5	5.7	7.4	6.65	46	82.4	83.6

1/ S- 1st year stubble cane; P-Plant cane

2/ Adjusted to 14 Brix

3/ Smithfield Plantation

4/ Hope Plantation

TABLE II. 1958 VARIETY PROCESSING EXPERIMENTS -- LIME REQUIREMENTS AND MUD EVALUATIONS

Cane Variety 1/	Run No.	Lime Required, Lbs./T.Cane	Dry Solids, % of Mud Weight	Mud Wt., Lbs./T.Cane Dry Solids Wet	Actual	Adjusted 2/	Dry Solids Analyses, Weight % Mineral	Organic	Settling, % Mud Vol. in 60 min.
CP 44-101S	3	1.81	6.05	131	7.92	6.37	48.2	51.8	16.0
"	4	1.71	5.51	154	8.48	7.04	47.3	52.7	15.5
"	11	1.89	9.63	190	18.29	8.94	68.7	31.3	18.5
"	12	1.85	7.65	187	14.30	7.60	63.4	36.6	19.0
	Average	1.82	7.21	166	12.25	7.49	56.9	43.1	17.2
CP 51-21S	5	0.96	6.62	139	9.20	7.66	33.5	66.5	15.0
"	6	0.88	8.39	111	9.31	7.66	40.0	60.0	13.5
	Average	0.92	7.50	125	9.26	7.66	36.8	63.2	14.2
CP 52-68S	1	1.13	8.61	95	8.18	5.49	52.9	47.1	8.1
"	2	1.47	7.72	94	7.25	5.82	48.7	51.3	10.1
"	9	1.20	9.67	113	10.93	6.68	54.8	45.2	15.0
"	10	1.51	8.17	178	14.54	8.02	62.6	37.4	17.3
	Average	1.33	8.54	120	10.23	6.50	54.8	45.2	12.6
NCO 310S	7	1.04	7.23	107	7.74	6.31	43.1	56.9	10.5
"	8	1.35	7.44	119	8.85	7.34	44.3	55.7	16.0
"	13	1.56	7.72	142	10.96	8.34	45.7	54.3	17.0
"	14	1.75	7.08	159	11.26	8.09	48.8	51.2	18.0
	Average	1.42	7.37	132	9.70	7.52	45.5	54.5	15.4
CP 44-101P	19	1.51	8.05	114	9.18	6.81	50.4	49.6	11.0
"	20	2.19	6.68	137	9.15	7.02	50.7	49.3	16.5
"	27	1.91	5.52	131	7.23	6.81	43.5	56.5	14.1
"	28	1.78	4.60	150	6.90	6.67	41.0	59.0	15.0
	Average	1.85	6.21	133	8.12	6.83	46.4	53.6	14.1
CP 51-21P	23	1.34	6.45	143	9.22	7.58	39.0	61.0	17.0
"	24	1.57	5.52	176	9.71	8.84	39.9	60.1	24.0
	Average	1.46	5.98	160	9.47	8.21	39.4	60.6	20.5
CP 52-68P	15	1.64	6.91	144	9.95	7.85	46.4	53.6	17.5
"	16	1.72	6.78	140	9.49	8.07	44.8	55.2	16.5
"	25	1.85	5.81	155	9.01	8.28	41.3	58.7	19.0
"	26	1.84	6.47	156	10.09	8.16	50.1	49.9	19.0
	Average	1.76	6.49	149	9.64	8.09	45.6	54.4	18.0
NCO 310P	21	1.53	6.17	153	9.44	8.26	37.3	62.7	21.0
	22	1.58	5.96	148	8.82	8.00	36.9	63.1	17.0
	29	1.56	7.26	141	10.24	9.20	34.5	65.5	18.0
	30	1.77	6.39	157	10.03	9.86	32.4	67.6	22.4
	Average	1.61	6.44	150	9.63	8.83	35.3	64.7	19.6

1/ S - 1st year stubble cane; P - Plant cane.

2/ Adjusted to 1.0 lb. suspended field soil per ton cane in dilute raw juice.

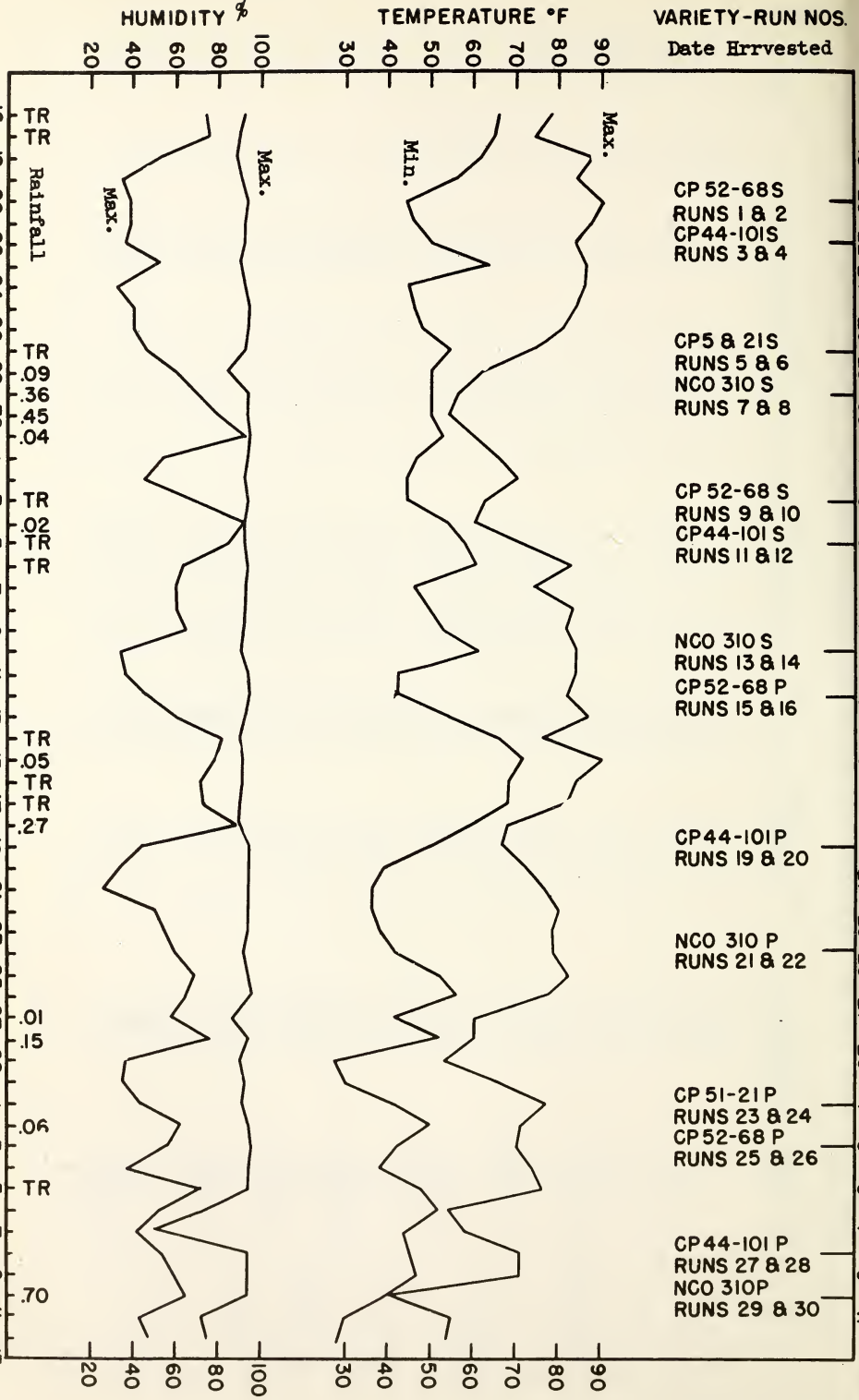


FIG.1-WEATHER CONDITIONS AND HARVESTING DATES DURING 1958 GRINDING SEASON

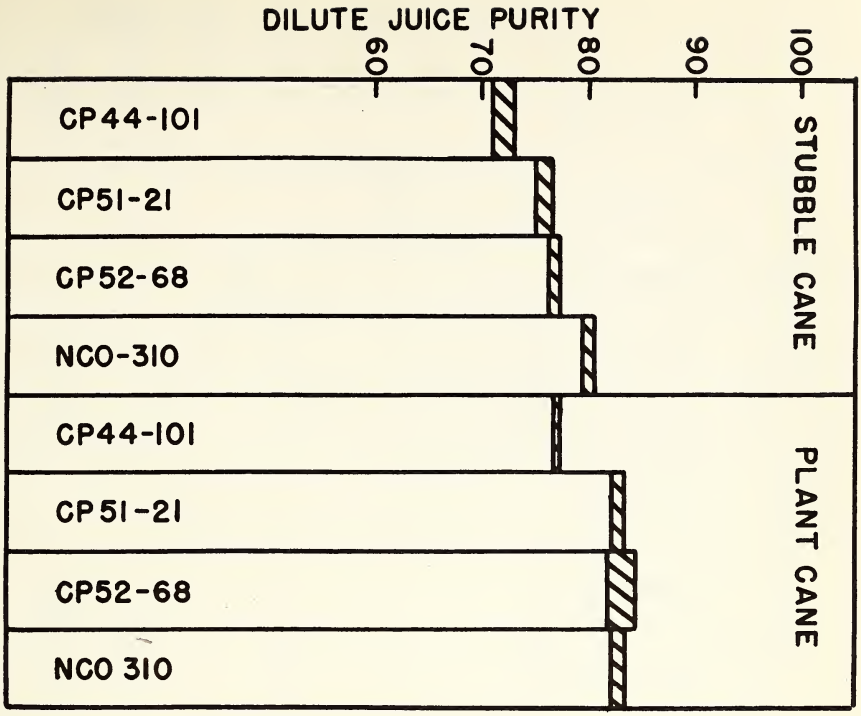


FIG. 2 1958 VARIETY COMPARISON
DILUTE JUICE PURITY
(PURITY RISE IN SHADED AREAS)

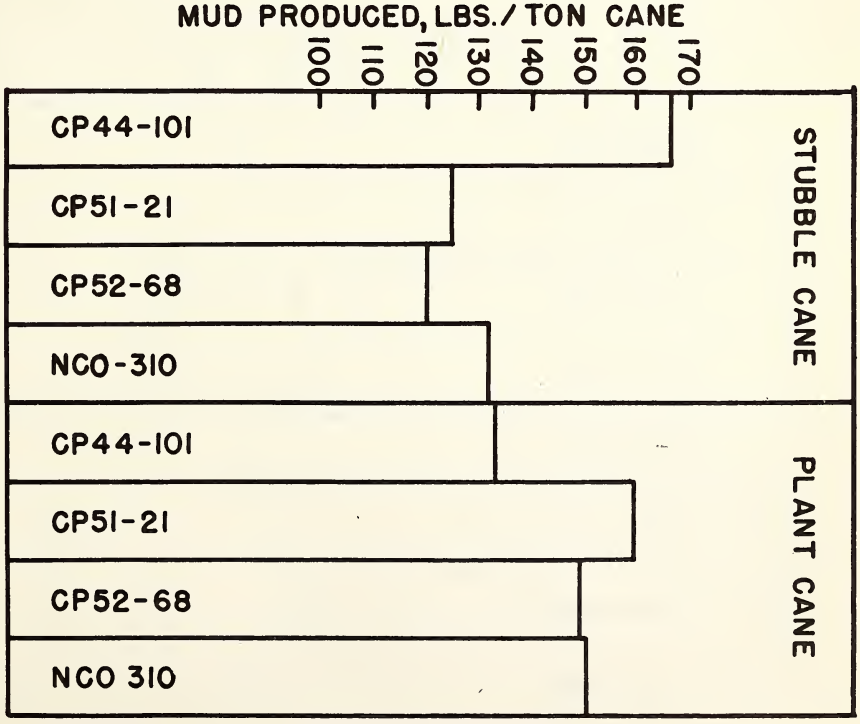


FIG. 3 1958 VARIETY COMPARISON
MUD PRODUCTION

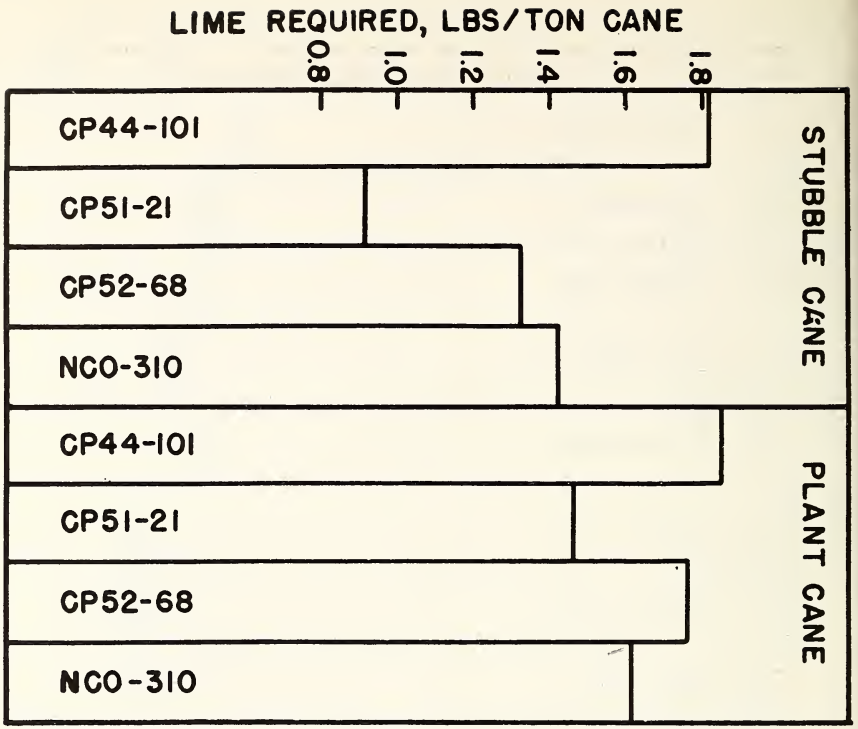


FIG. 4 1958 VARIETY COMPARISON
LIME REQUIREMENTS

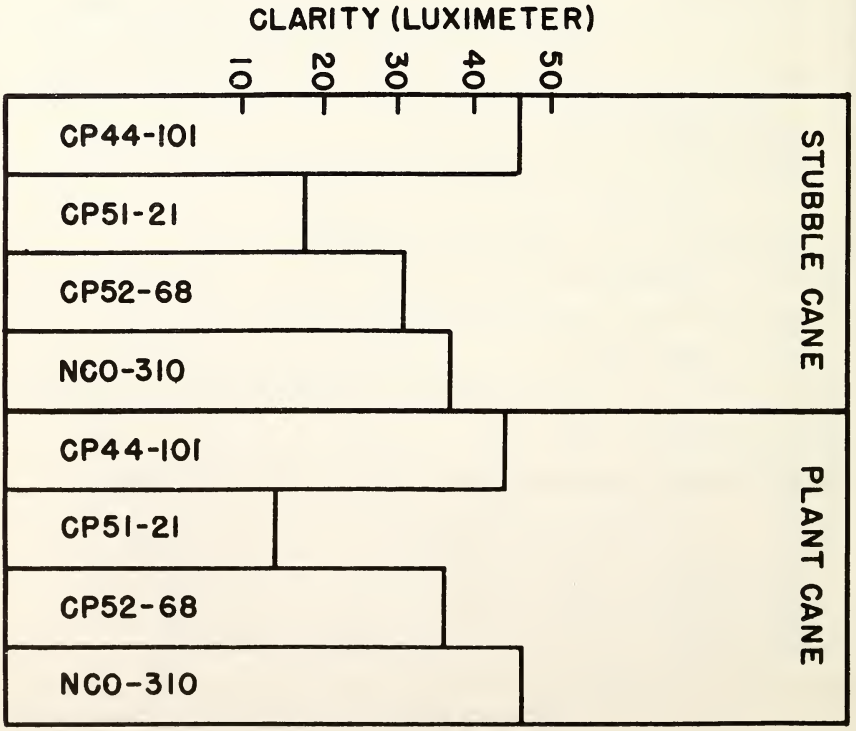


FIG. 5 1958 VARIETY COMPARISON
DEFECATED JUICE CLARITY

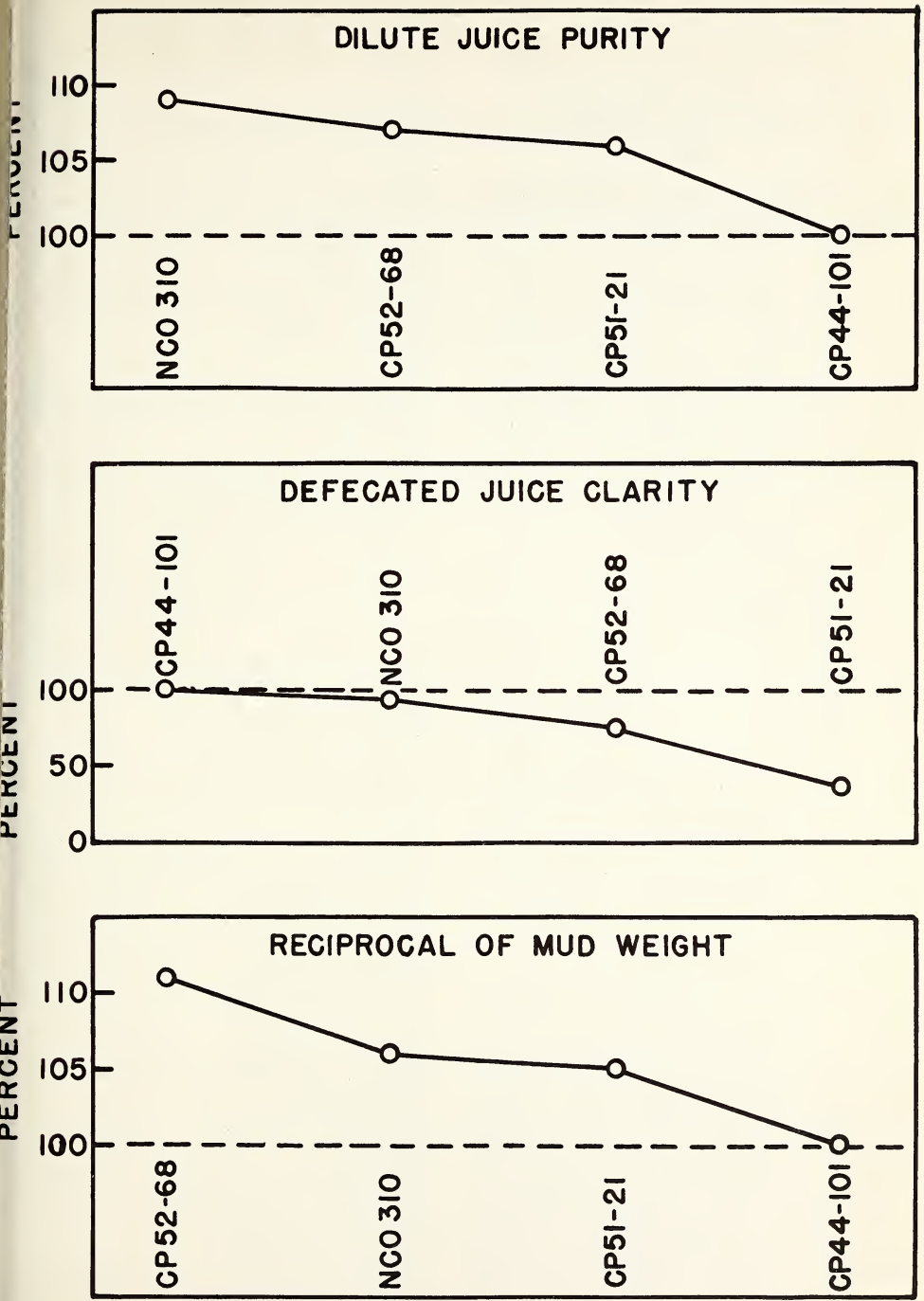


FIG.6, 1958 VARIETY COMPARISONS (CP44-101 AS STANDARD)

and plant cane C.P. 51/21 were at the other extreme in requiring unusually small quantities of lime to produce the required pH after heating. This may be attributed to some difference in juice composition resulting from soil and fertilization differences at Smithfield Plantation, as the plant cane samples of this variety from Hope Plantation yielded juices that required the normal quantity of lime for effective clarification.

Quantity of clarification precipitate. The total amount of clarification precipitate, or whole wet mud, has the greatest effect upon the rate and efficiency of processing. Average weights, in pounds per ton of cane, are shown graphically in Figure 3 for stubble and plant canes of each of the varieties. Although both kinds of cane of the standard C.P. 44/101 were obtained from St. Gabriel as in previous seasons, the stubble cane juice samples yielded an unusually large amount of mud particularly in the two experiments made in November, while plant cane of this variety processed later in the season produced a minimum amount of clarification precipitate. The other canes yielded juices that could be clarified with removal of small amounts of mud from stubble cane and larger quantaties of mud from plant cane samples. This results in high relative ratings on mud weight and clarification rate for all of the stubble canes, and inferior ratings for all of the plant cane samples. The data for individual experiments in Table II show that the poorest results obtained, with maximum quantities of precipitate to be removed, occurred in the pairs of stubble cane samples processed later in the season, particularly in the cases of C.P. 44/101 and C.P. 52/68. The new cane C.P. 52/68 would have a high rating on the average results because the pair of samples of stubble of this cane produced unusually small quantities of precipitate in the clarification. The results in general for this season's work leave some doubt because of the extreme values obtained for this quantity measured on tests o both stubble and plant cane of th standard, and the inconsistency of in dividual experiments on all of th stubble canes. Results of the plan cane tests are much more consistent but the quantity of precipitate ob tained from three of the four sample of plant cane of the standard C.P 44/101 are lower than this cane usual ly averaged in previous seasons. Rel ative ratings should be based upon a combination of these data with th results of numerous earlier experi ments on the new canes, C.P. 52/68 and N.Co. 310.

Clarities. The standard lime clarification produced juices in individua experiments with the clarities re corded in Table I. Values determined with the Luximeter are a measure of the combined effect of color and turbidity. A comparison of the average results for stubble and plant cane of each of the varieties is shown in Figure 5, in which the extremely poor clarities obtained in experiments with both kinds of cane of C.P. 51/21 are noteworthy. A low value would be expected in the experiments with stubble cane which produced an unusually small quantity of clarification precipitate, but an equally low average clarity was obtained in the plant cane experiment in which a large quantity of precipitate was produced by liming. This cane would have to be rated unsatisfactory for clarification by present methods if future experiments give consistently poor results in the clarity of its juices in pilot plant processing. The best average clarities in this series of experiments, 44-46 percent were obtained in processing the juice of standard cane C.P. 44/101. Only plant cane of N.Co. 310 equalled this value and both of the new commercial canes rate somewhat below standard but clarities are satisfactory for efficient processing.

Ratings relative to standard cane. Ratings based upon a combination of the results obtained with both stubble and plant cane are shown graphically as percentages of the standard C.P

4/101 in Figure 6. The quality of uices as shown by purities of all of he new canes were considerably bet-er than standard this season. The ombined rating of N.Co. 310 for larity shows that it is practically qual to the standard, with the new ommercial C.P. 52/68 slightly in-erior. As noted previously, C.P. 1/21 is unsatisfactory on the basis f clarity in the two pairs of experi-nents made during the season. The mportant factor of mud quantity, ffecting the rate at which the juices an be processed, places all of the ew canes as distinctly superior to tandard C.P. 44/101 on the com-)ined results. The most recently re-eased C.P. 52/68 proved superior in his respect to all of the other canes ncluding the standard. All of the lata now available indicate that C.P. 52/68 will be at least as good, if not)etter than CP 44/101 for proces-ing through the clarification step.

Acknowledgments

We are sincerely pleased to credit he effective cooperation of the Amer-can Sugar Cane League during this eason, as in past years, for much of he success of this research program. We are particularly indebted to the Industrial Committee of the League for counsel and assistance in plan-ning the experiments, and to Mr. Lloyd L. Lauden, the League's Field Representative, for untiring atten-tion to details of production of the cane for our use. The experiments would not be possible without the genuine interest and care of staff and personnel at St. Gabriel Planta-tion who planted, cultivated, and har-vested the canes as required for the scheduled tests. We are also grateful for unstinted cooperation of Pro-fessor A. G. Keller and his staff at Louisiana State University in testing the canes for milling qualities and providing juice for the experiments on clarification. The tests of C.P. 51/21 would not have been possible without the generous cooperation of Milliken & Farwell Inc., and of Duhe & Bourgeois Sugar Company in pro-viding the samples of this cane from Smithfield and Hope Plantations.

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2. Anon., Sugar Bul., 36 (20), 258-259 (July 15, 1958).

[1] One of the laboratories of the Southern Utilization Research and Development Division, Agricultural Research Service, U. S. Department of Agriculture.

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DISEASES

(Continued from page 273)

commercial varieties grown during the past 10 years are sufficiently resistent to the disease that it is unusual to find more than an occasional infected stool in them. N. Co. 310, however, is more susceptible to chlorotic streak than the other principal commercial varieties, and the disease is becoming fairly prevalent in it in the southeastern area. Chlorotic streak infection is eliminated from seed cane by the heat treatment used for stunting disease control, as well as by a shorter hot water treatment of 125-126°F. for 20 minutes. However, reinfection of the planted cane may occur rapidly as shown by the fact that one field of N. Co. 310 planted with heat-treated seed cane in September 1958 had upwards of 10 percent infection in May 1959.

Stunting Disease

Heat treatment of seed cane for control of stunting disease has become a routine practice with a great many growers throughout the sugarcane district. This should be continued with all varieties. Care should be taken that seed cane to be treated is free of mosaic, and the treated cane should be planted as far removed as possible from fields in which there is any considerable degree of mosaic infection.

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(Continued on next page)

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IN THE FIELD

(Continued from page 271)

to cane in light soils. Four inches of cover is plenty. Cover but don't bury cane.

Quarter drains should be cleaned and opened properly to insure drainage in the field. Poor drainage in plant cane fields is also responsible for many poor stands.

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SPECIAL STATISTICAL ISSUE

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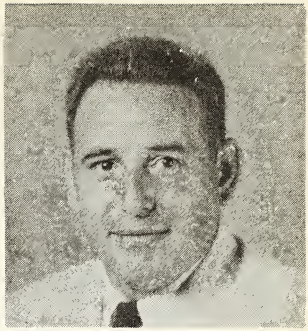
We stand for the encouragement of Home Industries as against Foreign Competition

IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden



St. Mary Parish Resolution on Mosaic Disease

The Louisiana Agricultural Extension Service is rendering an excellent service to the industry through its campaign to help bring mosaic disease under control in the cane belt. County Agents have made disease surveys and have held mosaic clinics to teach growers to identify and rogue diseased plants from the fields. In addition, mosaic disease was given special attention on the program at all of the parish field tours. Growers have responded to this help and progress is being made throughout the belt.

A new strain of mosaic disease was recognized last year in the Raceland area by Dr. E. V. Abbott of the U.S.D.A. Houma Station. This new strain has not yet been identified in the Teche area. Every effort is being made to prevent the introduction of this new strain of mosaic into the area. Mr. Minus Granger, County Agent, St. Mary Parish, has requested that the following resolution be carried in *The Sugar Bulletin*:

"At a meeting of the St. Mary Parish Agricultural Extension Service Advisory Committee, held July 17th, 1959, the following resolution was unanimously adopted by the nineteen members of the sugar cane subcommittee of the over-all advisory committee:

WHEREAS—The Parish of St. Mary is considered to have a light mosaic infestation present in sugarcane varieties.

WHEREAS—Most of the Eastern area is considered to be medium to highly infested with the mosaic disease in practically all varieties.

BE IT FURTHER RESOLVED—That the Agricultural Advisory Sub-Committee on sugarcane of St. Mary Parish at a meeting on Friday, July 17, 1959, does hereby go on record as requesting that no farmers or other individuals other than the Sugar Cane League or Experiment Station personnel be permitted to bring in any variety of sugar cane from the Eastern area into this Parish. (Eastern area—that area East of St. Mary Parish)."

Growers should pay attention to this resolution. The precautions set out in the resolution can save growers much time and money.

Growers can be assured that the L.S.U. Experiment Station, the U.S.D.A. Houma Sugar Station and the American Sugar Cane League will do everything possible to prevent the introduction of this new strain of mosaic virus into the Western area.

Even though mosaic disease is of major importance in the sugar belt, growers should not forget that stunting disease, another virus disease, is still in the cane fields. Growers who have heat treating units should continue to treat cane every year in order to constantly keep the best possible seed plots from which to take seed for commercial plantings. Growers who do not have heat treating units should make every attempt to have seed treated in a neighbor's unit or make arrangements for purchasing seed from growers who have clean heat treated seed.

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Senator Allen J. Ellender of Louisiana has formally announced that Congress will wait until next year to consider extending the Sugar Act. Senator Ellender and 47 other Senators introduced S. 187 to extend the Sugar Act which expires December 31, 1960, for an indefinite period, but because of the political unrest and economic uncertainty in Cuba, chief foreign supplier of the United States sugar market, Congress has refrained from considering this important domestic legislation.

Members of the Senate and House of Representatives who heretofore have sponsored sugar legislation say that if the Sugar Act is brought up for consideration now, amendments harmful to Cuba and to the best interests of the United States would be made in the Act because of resentment against the Cuban government's policy of expropriating American owned sugar and ranch lands.

In his formal statement, Senator Ellender said the administration, which previously requested Congress to pass sugar legislation this session, has not made any request for delay, but representatives of our State Department feel that plans for legislative action this year should be abandoned.

In the meantime the Castro regime is carrying out its avowed intention to swallow up large American interests. One of the first seizures under the Agrarian Reform Program was the 66,300 acre ranch, owned by Sumner Pingree of Hamilton, Massachusetts.

The 20,000 acre ranch owned by the Lykes Brothers of Tampa Florida, whose title to the property dates back to a Spanish Royal Grant is now managed by the Agrarian Reform Commission.

In taking over American owned property the Cuban Revolutionary Government risks losing United States Foreign Aid. The Congress by an amendment to the Foreign Aid Bill gave the President authority to discontinue aid to any foreign country when he deems that country unfair to nationals of the United States. The Cuban government has said it would issue bonds payable in 20 years at 4% interest to pay for seized American owned lands. Some of the outstanding bankers in the United States have expressed the opinion that these Cuban bonds would not be worth the paper they were printed on.

The strong belief prevails in certain official Washington circles that the growing financial crisis in Cuba will reach its peak within the next few months and will result in the downfall of the present revolutionary government.

The Senate by a vote of 85 yeas and 2 nays ratified the International Sugar Agreement of 1958. This Agreement is the successor to the 1953 International Sugar Agreement. Twenty-five exporting countries and nine importing countries have signed the Agreement. The United States is not a signatory but early this year filed notice of its intention to accede to the Agreement, thereby becoming

(Continued on page 313)

PLANTED ACRES OF LOUISIANA SUGARCANE FARMS PARTICIPATING IN THE SUGAR PROGRAM (SUGAR ACT OF 1937) BY PARISHES, FROM A. S. C. REPORTS

PARISHES	Acreage Planted for Sugar and Seed within Proportionate Shares										
	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Ascension	13,436	14,363	14,169	15,148.7	13,923.3	13,402.1	12,863.8	11,364.5	10,151.1	10,261.1	9,439.3
Assumption	29,905	30,907	30,853	30,955.0	29,900.3	31,428.3	27,680.6	25,685.6	22,628.3	25,988.3	25,882.7
Avoyelles	2,822	2,204	2,138	1,970.0	1,735.4	2,147.6	1,689.4	1,789.1	1,759.9	2,254.3	1,973.4
East Baton Rouge	585	437	312	331.5	388.3	83.6					
East Feliciana						.4	.4	.4			
Iberia	35,766	37,376	38,372	38,389.3	39,340.1	40,589.2	36,652.1	33,352.5	29,493.0	31,570.6	29,697.4
Iberville	21,453	19,845	19,841	20,727.2	19,510.9	20,135.7	17,899.3	16,651.4	13,972.2	15,889.0	15,621.4
Lafayette	10,094	9,317	8,685	8,728.8	8,874.7	8,901.7	7,647.4	7,219.5	6,497.5	6,954.8	6,654.3
Lafourche	28,504	29,008	29,246	29,501.1	29,040.1	29,895.3	25,129.3	24,234.6	21,637.3	24,126.7	23,632.1
Pointe Coupee	11,314	10,370	10,326	10,473.5	9,581.4	8,857.7	8,685.8	8,544.5	8,117.3	8,847.1	8,262.4
Rapides	1,934	1,757	1,335	1,360.5	972.9	708.9	674.7	659.9	748.4	1,197.6	1,238.9
St. Charles	1,502	1,646	1,531	1,549.4	1,699.6	1,529.3	1,441.3	1,329.6	1,160.3	1,244.5	1,243.2
St. James	17,984	17,825	17,325	17,865.4	17,482.9	17,299.7	15,466.7	14,382.6	12,246.1	14,503.0	14,022.5
St. John	14,850	15,103	15,048	14,898.9	15,044.6	15,179.7	13,239.6	12,560.0	11,484.1	12,790.0	12,528.6
St. Landry	923	838	834	515.7	172.1	184.9	128.6	117.5	143.8	235.1	34.9
St. Martin	17,590	17,104	16,918	18,520.1	18,872.2	19,475.8	16,932.6	16,728.2	15,197.0	16,430.2	15,005.1
St. Mary	33,420	34,730	33,892	36,075.4	36,877.5	37,863.8	32,031.4	30,053.7	26,055.7	30,314.0	29,749.8
Terrebonne	34,802	35,714	35,473	34,616.0	33,393.7	35,032.2	31,513.7	28,526.3	25,232.9	28,808.7	28,656.0
Vermilion	4,566	5,127	3,920	3,439.8	2,760.9	2,633.2	2,511.1	2,360.3	2,157.8	2,218.8	1,805.4
West Baton Rouge	13,700	13,751	13,971	14,172.2	13,489.0	13,527.3	12,235.0	12,051.0	11,070.4	12,604.3	12,571.5
West Feliciana	3,688	3,337	2,392	1,785.8	1,686.4	1,778.1	1,939.2	1,962.9	1,838.5	2,108.7	2,064.6
TOTAL	298,838	300,769	296,581	301,024.3	294,746.3	300,654.6	266,362.0	249,576.1	221,592.0	248,346.8	240,083.5

PROPORTIONATE SHARE ACRES HARVESTED FOR SUGAR—YIELD OF SUGARCANE PER ACRE AND YIELD OF RECOVERABLE SUGAR PER ACRE OF LOUISIANA FARMERS PARTICIPATING IN THE SUGAR PROGRAM (SUGAR ACT OF 1937) BY PARISHES FROM A. S. C. REPORTS

PARISHES	Prop. Share	Proportionate Shares Harvested for Sugar (Acres)				Yield of Cane Per Acre Tons				Yield of Recoverable Sugar per Acre CWT			
	1958	1955	1956	1957	1958	1955	1956	1957	1958	1955	1956	1957	1958
Ascension	9,997.3	10,780.4	9,543.6	9,432.9	8,683.8	25.21	25.20	21.48	22.72	37.65	43.00	32.64	37.51
Assumption	26,246.4	24,094.0	20,750.0	23,873.5	23,919.2	25.83	25.13	24.59	24.18	39.90	44.17	41.17	40.96
Avoyelles	2,333.6	1,660.1	1,658.0	2,180.6	1,566.1	17.67	20.32	18.20	20.22	25.88	31.90	25.25	32.33
East Baton Rouge													
East Feliciana		.4	.4			22.50	6.50			25.12	10.60		
Iberia	33,476.5	30,396.3	26,581.5	28,166.8	26,532.2	20.14	20.35	17.97	21.45	32.22	35.64	29.20	37.80
Iberville	16,282.6	15,604 1	12,764.4	14,660.0	14,215.8	28.13	29.10	26.12	24.02	42.86	49.48	41.64	40.82
Lafayette	7,316.1	6,625.4	5,883.0	6,241.3	5,802.3	22.50	21.06	15.34	15.73	32.27	33.75	24.51	25.79
Lafourche	25,122.9	22,927.3	20,105.7	21,871.7	22,145.7	25.96	23.95	24.88	24.11	42.17	42.65	41.93	42.55
Pointe Coupee	9,537.5	8,127.5	7,666.7	8,421.0	7,612.7	26.14	23.91	22.48	21.03	38.97	40.91	34.37	34.48
Rapides	1,246.4	632.8	699.7	1,124.9	1,107.9	26.63	24.66	19.66	23.93	38.85	38.79	27.34	38.44
St. Charles	1,287.2	1,272.2	1,084.9	1,109.5	1,124.2	26.02	20.54	20.53	20.90	41.50	36.28	33.55	37.23
St. James	14,714.6	13,625.0	11,432.1	13,496.9	13,178.8	27.10	25.99	24.03	24.12	43.22	46.66	39.83	42.54
St. John	13,034.2	11,777.9	10,603.2	11,476.6	11,756.0	25.74	23.85	21.55	21.56	43.09	45.63	37.29	38.90
St. Landry	42.0	112.5	140.8	224.9	34.9	20.60	17.10	13.52	12.83	28.73	27.19	16.68	20.50
St. Martin	17,568.3	14,821.6	14,042.8	14,848.4	13,325.9	20.31	19.85	17.52	18.00	30.86	33.52	27.90	30.74
St. Mary	31,235.6	27,989.2	23,602.1	27,274.0	27,098.8	21.47	21.96	19.77	20.50	36.29	39.87	33.62	36.83
Terrebonne	29,211.1	26,849.3	23,150.6	26,385.4	26,185.1	26.86	23.73	24.25	22.06	44.41	43.86	40.96	39.80
Vermilion	2,298.6	2,137.1	1,934.7	1,966.7	1,642.1	20 97	18.26	13.95	19.61	30.53	31.21	22.71	33.14
West Baton Rouge	12,931.4	11,202.2	10,032.3	11,532.4	11,311.0	28.36	29.22	25.46	25.64	45.11	51.26	40.10	43.83
West Feliciana	2,188.5	1,810.7	1,609.2	1,876.5	1,901.7	28.43	22.58	26.27	23.03	43.26	38.22	33.37	36.16
TOTAL	256,070.8	232,148.0	203,285.7	226,164.0	219,144.2	24.36	23.61	22.01	22.20	38.64	41.71	36.07	38.63

RECAPITULATION OF FINAL REPORTS OF LOUISIANA SUGAR CANE FACTORIES, CROPS 1949-1958, By Mr. Grayson of P. & M. A.

Total for State Factories Year	54 1949	54 1950	54 1951	54 1952	54 1953	54 1954	53 1955	50 1956	49 1957	48 1958
Crop Days	67.4	64.2	54.2	64.24	69.5	62.9	63.9	55.02	65.6	54.8
Lost time % total time	16.45	11.57	15.32	11.81	14.56	13.08	12.61	11.75	15.72	10.74
Cane: Tons ground, gross weight	5,210,195	5,550,549	4,663,774	5,869,257	6,054,764	5,941,406	5,949,155	5,109,238	5,397,171	5,205,760
Tons ground, net weight	4,983,982	5,311,857	4,462,854	5,666,917	5,759,310	5,624,800	5,664,412	4,817,145	4,975,915	4,878,725
% Total Cane Ground, Gross Weight	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Tons Ground per Hour	67.63	71.52	74.34	77.08	74.53	79.39	83.74	84.32	81.35	92.46
Extraction N. J. % Cane	72.86	72.21	72.09	72.74	71.23	72.39	73.16	72.83	70.59	73.32
Sucrose Extraction, %	90.57	90.10	89.45	89.76	88.97	89.69	90.13	90.18	88.88	90.24
Maceration % Cane	17.63	17.04	13.89	15.69	18.56	17.08	17.58	18.83	20.00	18.88
Fiber % Cane	14.58	14.96	14.50	14.35	14.78	14.51	14.28	14.65	15.32	14.27
Java Ratio	76.66	76.18	74.79	76.93	75.61	75.98	76.72	75.94	74.95	76.19
Analysis										
Crusher Juice Brix	16.66	17.19	15.39	16.93	17.32	16.89	16.52	17.28	16.30	17.04
Crusher Juice Sucrose					13.64	13.34	12.68	13.81	12.93	13.71
Brix Factor (Final Report)	97.06	97.15	97.27	97.06	97.00	96.92	96.85	96.93	97.24	96.95
Sucrose Factor (Final Report)	95.30	95.04	94.57	94.95	94.43	94.15	94.56	94.06	94.35	93.73
Normal Juice Brix	16.17	16.70	14.97	16.43	16.80	16.37	16.00	16.75	15.85	16.52
Normal Juice Sucrose	12.37	13.03	10.80	12.22	12.88	12.56	11.99	12.99	12.20	12.85
Normal Juice Purity	76.38	78.02	72.14	74.38	76.67	76.73	74.94	77.55	76.97	77.78
Factory Syrup, Brix	58.56	58.24	56.91	58.81	58.13	56.55	57.96	57.91	56.42	57.64
Residual Juice Brix	6.23	6.50	6.60	6.67	6.37	6.42	5.98	6.17	6.30	6.22
Bagasse Sucrose	2.90	3.22	2.93	3.23	3.40	3.27	3.07	3.18	3.17	3.22
Bagasse Moisture	49.27	48.45	49.51	49.69	50.06	49.99	49.82	50.05	50.50	50.44
Bagasse Fiber	46.43	46.63	46.18	45.75	44.20	45.45	45.68	45.54	45.06	45.13
Press Cake Sucrose	3.68	4.10	4.42	3.81	4.21	4.08	4.17	4.33	4.55	4.10
Sucrose Balance										
Molasses, Sucrose % Cane	.996	1.132	1.261	1.164	1.105	1.022	1.096	1.041	1.053	.950
Press Cake, Sucrose % Cane	.147	.158	.165	.156	.180	.165	.169	.167	.252	.172
Undetermined, Sucrose % Cane	.211	.234	.228	.177	.269	.184	.151	.146	.228	.116
Bagasse, Sucrose % Cane	.938	1.034	.920	1.014	1.137	1.045	.959	1.030	1.078	1.019
Total Losses, Sucrose % Cane	2.292	2.558	2.574	2.511	2.691	2.416	2.375	2.384	2.611	2.257
Sugar, Sucrose % Cane	7.659	7.886	6.154	7.390	7.622	7.720	7.353	8.104	7.075	8.188
Total, Sucrose % Cane	9.951	10.444	8.728	9.901	10.313	10.136	9.728	10.488	9.686	10.445
Pounds 96° Sugar M&E Ton Gross Cane	159.56	164.29	128.21	153.96	158.79	160.83	153.19	168.83	147.40	170.58
Pounds 96° Sugar M&E Ton Net Cane	166.80	171.67	133.98	159.46	166.93	169.88	160.89	179.07	159.87	182.02
Gals. F. M. (B/S) M. & E. T/C 80° Brix	6.80	6.90	8.01	7.82	6.94	6.67	7.28	6.56	6.52	6.37
Boiling House Efficiency	96.97	94.45	93.16	97.83	94.61	96.61	96.83	96.93	93.35	98.05

LOUISIANA MILL REPORTS

Production of Sugars (tons, 2,000 lbs.), Syrup, 1st Molasses, 2nd Molasses, and Blackstrap—1949-1958

	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Raw Sugar 96°	308,866	331,156	215,730	325,929	358,424	376,391	363,234	336,795	304,367	340,211
Clarified	0	0	-------	-------	-------	-------	-------	-------	-------	-------
Turbinados	26,856	35,527	26,078	36,294	37,635	41,790	43,949	40,684	40,779	40,040
Granulated	58,746	70,534	44,019	67,199	64,910	46,710	31,754	39,319	41,846	51,679
Washed Raws	0	6,248	4,273	8,393	6,373	-------	4,870	2,719	-------	-------
Total Sugars (Raw Value)	415,811	456,246	296,566	450,690	480,633	478,413	455,209	431,624	397,642	442,793
String—Others	178	796	-------	157	460	275	904 Lbs.	128	-------	67
Sirup—Gallons	1,075,843	1,725,787	1,085,220	1,314,161	892,146	1,224,999	1,397,874	1,143,480	785,571	1,246,002
1st Molasses—Gallons	1,588,612	2,730,680	1,599,423	1,997,349	1,506,982	1,450,251	1,640,898	1,150,873	1,200,461	1,968,068
2nd Molasses—Gallons	1,725,655	1,608,557	1,684,990	2,079,561	1,451,038	1,369,755	1,552,163	1,233,328	1,352,862	1,116,155
Blackstrap (Actual Gallons)	30,121,524	32,703,162	32,202,814	39,030,897	36,330,800	34,198,437	37,902,846	29,043,451	30,149,458	27,885,280

PRODUCTION OF SUGAR IN LOUISIANA 1900-1958

Crop year	Production 1,000 short tons 1/	Crop year	Production 1,000 short tons 1/	Crop year	Production 1,000 short tons 1/
1900	309	1919	124	1938	491
1901	360	1920	173	1939	436
1902	369	1921	331	1940	234
1903	256	1922	301	1941	322
1904	398	1923	165	1942	397
1905	377	1924	90	1943	432
1906	258	1925	142	1944	369
1907	381	1926	48	1945	370
1908	398	1927	72	1946	331
1909	327	1928	135	1947	297
1910	350	1929	204	1948	393
1911	360	1930	188	1949	414
1912	157	1931	160	1950	451
1913	299	1932	228	1952	451
1914	248	1933	209	1953	479
1915	140	1934	234	1954	478
1916	310	1935	339	1955	454
1917	249	1936	386	1956	429
1918	286	1937	401	1957	396
				1958	443

[1] Production reported on 96° basis prior to 1934, raw value basis thereafter.
1900-08, Division of Historical and Statistical Research, U.S.D.A. Yearbook, 1923.
1909-33, "Sugarcane for Sugar and Sirup", Agricultural Marketing Service, U.S.D.A., February 1941.

GROWER'S INCOME, DOLLARS, THE TON OF SUGARCANE DELIVERED TO LOUISIANA SUGAR MILLS, 1957-58

	Paid by Mills	Conditional Payments, Sugar Acts of 1937 and 1948, as amended					
Year	Acct. Cane	Molasses Bonus	Acc. Recoverable Sugar	Abandonment Payment	Deficiency Payment	Total Conditional Payment	Support or CCC Payment	Total Amt. Received
1937	2.907	-	.892	.023	.016	.931	-	3.838
1938	2.663	-	.948	-	-	.948	-	3.611
1939	2.881	-	.976	-	-	.976	-	3.857
1940	2.717	-	.908	.013	.258	1.179	-	3.896
1941	3.679	.256	.924	.005	.084	1.013	-	4.948
1942	4.033	.319	1.240	.001	.084	1.325	-	5.677
1943	3.936	.323	1.213	.008	.023	1.244	.341	5.844
1944	3.837	.313	1.165	.048	.004	1.217	.826	6.193
1945	3.762	.320	1.158	.008	.002	1.169	1.496	6.747
1946	6.222	.322	1.235	.041	.001	1.277	-	7.821
1947	6.634	.609	1.250	.001	.136	1.387	-	8.630
1948	5.821	.058	1.180	.001	.035	1.216	-	7.095
1949	6.199	-	1.204	.001	.030	1.235	-	7.434
1950	7.146	.738	1.287	-	.003	1.290	-	9.174
1951	5.149	.723	1.046	.039	.120	1.205	-	7.077
1952	6.542	.097	1.175	-	.001	1.176	-	7.815
1953	6.963	.141	1.263	.001	-	1.264	-	8.368
1954	6.582	.133	1.219	-	-	1.219	-	7.934
1955	6.085	.170	1.155	.001	.001	1.157	-	7.412
1956	7.148	.720	1.288	-	-	1.288	-	9.156
1957	6.461	.226	1.197	.005	.015	1.217	-	7.904
1958	7.080	.222	1.263	.001	.012	1.276	-	8.578

RESULTS OF SUGARCANE VARIETY TESTS IN LOUISIANA DURING 1958

By T. J. Stafford,[1] R. J. Matherne,[2] and L. P. Hebert [2]

For many years the results of field rials with sugarcane varieties were eported separately by the United tates Department of Agriculture ugarcane Field Station at Houma nd the Louisiana Agricultural Exeriment Station at Baton Rouge. ince the outfield experiments of the stations have now been consolidatd into one program, it seems desirble to combine the results from all est fields into a single report. Thus, ll variety test field information for given year may be found in one eport. The purpose of this paper is o present and briefly discuss all ariety test field results that were btained in Louisiana in 1958.

A detailed discussion of the experinental procedure is omitted, since revious reports (7, 10) have treatd the subject sufficiently. The eader interested in a complete acount of the experimental techniques s referred to those reports.

Cooperating plantations render a valuable service by making land, labor, and equipment available for performing the experiments. In 1958, tests were located on 12 cooperating plantations: on 2 of these plantations, tests conducted on both heavy and light soils. Also, tests were conducted on heavy soil at the Houma station. This made a total of 15 test sites. The names, owners, soil types, and other pertinent information for the various plantations where tests were located are summarized in table 1. It can be seen that tests are located in every major cane-growing area and on practically every major soil type in the sugar belt. Usually, plant-cane, first stubble, and second-stubble tests are harvested at each test site except in the heavy-soil areas. In heavy-soil areas plant cane and first-stubble crops only are harvested. In 1958, however, no plant-cane test was harvested at the Bon Secour, Cinclare, and Reserve light-soil test fields; no first-stubble test was harvested at Bon Secour; and no second-stubble test was harvested at the Billeaud, St. John, and Shirley test fields. Light-soil tests harvested in 1958 totaled 8 in plant cane, 10 in first stubble, and 7 in second stubble. On heavy soils there were 4 in plant cane and 4 in first stubble.

Some Seasonal Conditions

South Louisiana experienced a rather severe winter in 1957 - 1958 from the standpoints of both excess rainfall and rather low temperatures. Rains began in the fall of 1957 and continued rather frequently through winter and the following spring. Temperatures were often below normal until about May 1. Lows of 26° and 24°F. were recorded at Houma on January 8 and 9, respectively. Again on February 12 and 13 temperatures dropped to 24° and 20°F., respectively, at Houma. Consequently, the cane was slow to emerge, and growth was very slow until warm temperatures prevailed. Some fields of summer plant cane failed to develop good stands and had to be plowed out. Fall plantings generally had better stands than summer plantings in 1958, which was contrary to the results of previous studies (6). Varietal differences in stubbling ability were striking in the field. Some varieties such as Co. 290 and C.P. 29-320, which are no longer important commercially, were extremely poor in stubble, as is shown by the yields. Also some of the unreleased varieties (C.P. 52-38 and C.P. 52-67) were very weak, apparently because of adverse winter conditions. Fortunately, most of the commercial varieties germinated to excellent stands in the stubble crops.

Frequent spring rains hampered early cultivation; consequently, weeds

Table 1. Testfield locations, soil types, and dates of harvest during 1958

Testfield	Owner	Parish	Soil type	Harvest dates: Plant cane	First stubble	Second stubble
Billeaud	Billeaud-Reaux Planting Co.	Lafayette	Richland silt loam	12/1	11/10	----
Bon Secour	F. A. Graugnard & Sons	St. James	Mhoon silty clay loam	----	----	10/20
Cinclare light soil	H. L. Laws & Co.	East Baton Rouge	Mhoon very fine sandy loam	----	11/5	10/21
Cinclare heavy soil	H. L. Laws & Co.	East Baton Rouge	Sharkey clay	11/24	11/13	----
Glenwood	Thibaut Farms	Assumption	Mhoon very fine sandy loam	11/20	11/12	10/23
Greenwood	Southdown Sugars, Inc.	Lafourche	Sharkey clay	11/20	11/4	----
D. Landry	Dewey Landry	Iberia	Iberia silt loam	12/4	11/11	----
Oaklawn light soil	South Coast Corp.	St. Mary	Baldwin silt loam	11/26	11/7	10/28
Oaklawn heavy soil	South Coast Corp.	St. Mary	Alligator clay	11/26	10/27	----
Raceland	South Coast Corp.	Lafourche	Mhoon very fine sandy loam	11/19	11/3	10/24
Reserve	Gulf States Land & Industries Co.	St. John	Mhoon very fine sandy loam	----	10/17	10/17
Station (Houma)	U.S. Dept. Agri.	Terrebonne	Sharkey silty clay loam	11/21	11/10	----
St. John	Levert Land Co.	St. Martin	Baldwin very fine sandy loam	12/2	11/10	----
Shirley	Haas Investment Company	Avoyelles	Yahola very fine sandy loam	11/18	11/17	----
Youngsville	Young's Industries Co.	Lafayette	Richland silt loam	12/3	10/28	10/28

Table 2. Monthly rainfall in inches at cooperative variety test stations during 1958

Station	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Raceland	7.29	3.61	7.32	2.13	7.96	3.10	9.38	8.61	11.12	.82	.95	1.81	64.10
Oaklawn	4.45	4.31	5.36	3.66	5.12	7.90	13.34	10.85	8.39	1.13	1.52	1.20	67.23
D. Landry[1/]	4.61	5.55	3.63	4.17	2.54	5.52	4.88	5.99	6.69	3.54	1.35	2.39	50.86
St. John	4.00	4.60	4.30	5.25	5.46	8.25	5.30	7.21	10.22	1.35	1.00	2.10	59.04
Bon Secour	5.68	3.14	6.26	3.42	9.58	2.32	6.82	6.39	7.64	.83	.77	2.01	54.86
Greenwood	5.40	3.05	7.40	2.55	5.35	3.85	8.00	5.95	9.15	1.00	1.50	1.10	54.30
Shirley[2/]	4.46	2.78	4.55	4.90	7.02	5.00	6.14	9.44	10.02	.56	2.75	2.77	60.39
Cinclare	5.71	5.04	7.13	4.87	5.37	5.15	4.81	7.07	8.86	1.56	1.86	2.01	59.44
Glenwood	5.25	4.02	6.55	5.05	4.34	3.84	4.12	6.90	7.23	.94	1.38	1.67	51.29
Reserve	5.32	3.66	6.73	4.95	5.32	4.13	8.70	5.34	8.14	1.06	1.00	2.15	56.50
Youngsville	4.30	3.63	4.39	5.51	5.36	3.93	6.77	10.18	6.13	1.40	1.22	1.95	54.77
Billeaud	3.75	4.20	4.43	5.28	4.54	5.50	7.63	11.24	7.57	1.57	1.52	2.00	59.23

1/ Rainfall recorded at nearby Iberia Livestock Farm.

2/ Rainfall data furnished by H. K. Bubenzer Farms, Inc.

were more prevalent than normal. Rainfall was ample through the summer, and the cane made rapid growth.

The sugarcane borer was a serious problem in 1958, causing much damage in the Billeaud and Oaklawn test fields. On the other hand, excellent borer control was obtained at the Glenwood, St. John, and Shirley test fields and excellent yields were obtained. Mosaic was prevalent in a number of varieties at the Raceland and Reserve test fields.

Rainfall was normal, or above, through August, and in most places September rains were excessive. Consequently, the major portion of fall planting was delayed until October. Fortunately, October, November, and December were comparatively dry making for excellent harvest conditions. Also, no strong winds occurred to cause lodging; machine cutting was much more rapid and the harvested cane was much cleaner than in 1957.

Results of Tests on Light Soils

In table 3, results obtained with 11

Table 3. Summary of trials with 11 important sugarcane varieties on light soils during 1958 showing averages of all locations

Variety	Crop*	Tons of cane per acre	Pounds of sugar per ton of cane	Sugar per acre	
				Pounds	Percent of C. P. 44-101
C. P. 52-68	Plant cane (8)	24.91	189.8	4728	103
	First stubble (10)	28.90	196.7	5683	118
	Second stubble (3)	22.58	198.3	4478	129
	Ave. 3 crops (21)	25.46	194.9	4963	114
C. P. 53-18	Plant cane (7)	23.45	216.8	5083	114
C. P. 51-21	Plant cane (4)	26.28	195.2	5132	112
C. P. 53-1	Plant cane (8)	28.90	167.6	4844	106
C. P. 53-22	Plant cane (7)	29.79	157.2	4682	104
C. P. 53-15	Plant cane (8)	29.04	161.9	4703	103
C. P. 44-101	Plant cane (8)	27.12	168.8	4578	100
	First stubble (10)	29.03	165.8	4813	100
	Second stubble (7)	26.51	163.9	4345	100
	Ave. 3 crops (25)	27.55	166.2	4579	100
C. P. 48-103	Plant cane (7)	19.95	207.4	4137	93
	First stubble (10)	23.22	219.0	5085	104
	Second stubble (7)	20.98	206.9	4341	100
	Ave. 3 crops (24)	21.38	211.5	4521	100
N. Co. 310	Plant cane (8)	26.61	175.0	4655	102
	First Stubble (10)	26.73	174.4	4664	97
	Second stubble (7)	24.82	174.8	4338	100
	Ave. 3 crops (25)	26.05	174.7	4552	99
C. P. 47-193	Plant cane (7)	23.48	176.5	4144	93
	First stubble (10)	26.50	186.8	4950	101
	Second stubble (7)	22.91	176.5	4043	93
	Ave. 3 crops (24)	24.30	180.2	4379	97
C. P. 36-105	Plant cane (7)	28.12	158.2	4449	100
	First stubble (10)	28.44	162.4	4619	95
	Second stubble (7)	22.57	163.3	3686	85
	Ave. 3 crops (24)	26.38	161.1	4251	93

*Number in parentheses indicates number of trials.

important varieties as averages for all light-soil tests are summarized. Of the 11 varieties, 6 have been released and are now being grown for commercial production. C.P. 44-101, presently being grown on 47.64 percent of the Louisiana sugarcane acreage(5), is used as the standard for making varietal comparisons because it has been for several years the most important commercial variety. Its yields of cane per acre during 1958 were about equal to its average yields for the past 5 years, but yields of sugar per ton of cane and sugar per acre were below the average for the past 5 years(1). These annual fluctuations must be considered in final evaluations of varieties. C.P. 44-101 is still considered to be one of the best varieties for general use.

Of the released varieties, C.P. 52-68, released in 1958, averaged more sugar per acre than C.P. 44-101 for all tests. It was approximately equal to C.P. 44-101 in plant cane and far

Table 4. Results of sugarcane variety trials on light soils in the Mississippi River-Bayou Lafourche area during 1958. (Tons of cane per acre)

Variety	Plant Cane			First Stubble				Second Stubble					Average of all crops
	Glenwood	Raceland	Average	Cinclare	Glenwood	Raceland	Reserve	Average	Bon Secour	Cinclare	Glenwood	Raceland	Reserve	Average	
C. P. 51-24	27.21	-----	27.21	-----	-----	-----	-----	----	-----	-----	-----	-----	-----	----	27.21
C. P. 51-21	27.57	-----	27.57	-----	-----	-----	-----	----	-----	-----	-----	-----	-----	----	27.57
C. P. 52-68	25.29	24.75	25.02	30.88	29.42	26.32	26.19	28.20	20.73	-----	-----	18.52	-----	19.63	24.28
C. P. 53-1	27.04	26.14	26.59	-----	-----	-----	-----	----	-----	-----	-----	-----	-----	----	26.59
C. P. 53-18	23.84	17.42	20.63	-----	-----	-----	-----	----	-----	-----	-----	-----	-----	----	20.63
C. P. 53-15	28.72	27.49	28.11	-----	-----	-----	-----	----	-----	-----	-----	-----	-----	----	28.11
C. P. 53-125	-----	28.38	-----	-----	-----	-----	-----	----	-----	-----	-----	-----	-----	----	28.28
C. P. 48-103	27.84	23.99	25.40	27.84	26.93	22.04	25.73	25.64	20.66	19.96	26.20	20.47	19.29	21.72	24.25
N. Co. 310	21.38	19.37	20.38	26.24	23.81	22.36	16.69	22.26	20.20	17.79	25.68	21.25	22.47	21.08	20.91
C. P. 47-193	27.59	22.38	24.99	29.65	27.46	24.60	26.50	27.05	19.33	24.74	28.92	21.30	23.95	23.33	25.23
C. P. 44-101	30.72	24.72	27.72	30.68	33.04	28.13	26.03	29.47	22.99	27.25	31.13	19.31	23.11	24.68	27.10
C. P. 36-105	25.34	21.92	23.63	24.28	25.91	25.23	25.52	25.24	18.40	24.76	30.30	16.43	23.43	23.27	24.10
C. P. 36-13	31.03	23.66	27.35	25.71	28.31	25.50	24.83	26.09	20.24	23.42	25.60	18.22	22.19	21.93	23.12
C. P. 43-47	25.20	21.52	23.36	29.90	28.14	26.93	23.82	27.20	16.20	-----	-----	18.36	20.20	18.25	22.94
C. P. 52-16	26.14	23.66	24.90	26.84	27.18	29.20	26.33	27.39	16.12	19.87	23.64	21.54	18.69	19.97	23.66
C. P. 52-57	-----	-----	-----	27.22	28.97	29.25	23.87	27.33	19.82	-----	-----	21.13	-----	20.48	23.91
C. P. 53-16	24.98	21.11	23.05	25.40	24.14	23.40	17.42	22.99	-----	-----	-----	-----	-----	-----	22.82
C. P. 48-117	21.88	21.84	21.86	-----	-----	-----	-----	----	-----	-----	-----	-----	-----	-----	21.86
C. P. 50-40	-----	-----	-----	25.31	21.80	26.51	18.64	23.07	18.42	25.90	25.19	18.88	24.75	22.55	22.81
C. P. 52-37	-----	-----	-----	-----	-----	-----	-----	----	6.38	19.99	18.74	11.93	17.48	14.82	14.82
C. P. 29-116	17.44	18.88	17.16	26.32	25.34	23.06	22.48	22.31	15.67	-----	-----	16.48	-----	16.08	19.20
C. P. 53-23	10.50	16.87	13.69	-----	-----	-----	17.12	22.96	12.26	-----	-----	10.91	-----	11.59	17.57
C. P. 29-320	-----	-----	-----	16.79	20.16	18.34	16.36	17.96	6.23	-----	-----	7.72	-----	6.98	13.69
C. P. 52-67	23.27	14.23	18.75	12.76	18.21	22.57	14.68	17.06	7.58	-----	-----	6.34	-----	7.06	12.47
C. P. 52-38	-----	-----	-----	5.38	3.72	-----	-----	4.55	3.62	-----	-----	5.66	-----	4.64	14.29
L.S.D. (.05)	4.27	4.66		3.04	2.31	3.69	5.06		6.07	3.97	2.77	6.14	3.73		4.60
L.S.D. (.01)	5.68	6.22		4.06	3.08	4.93	6.75		8.11	4.84	3.75	8.46	5.04		

Table 5. Results of sugarcane variety trials on light soils in the Mississippi River-Bayou Lafourche area during 1958. (Pounds of sugar per ton of cane)

Variety	Plant Cane			First Stubble				Second Stubble					Average of all crops
	Glenwood	Raceland	Average	Cinclare	Glenwood	Raceland	Reserve	Average	Bon Secour	Cinclare	Glenwood	Raceland	Reserve	Average	
C. P. 51-24	223.5	-----	-----	-----	-----	-----	-----	----	-----	-----	-----	-----	-----	----	223.5
C. P. 51-21	207.9	-----	-----	-----	-----	-----	-----	----	-----	-----	-----	-----	-----	----	207.9
C. P. 52-68	208.4	199.3	203.9	210.1	199.3	188.1	190.5	197.0	197.6	-----	-----	210.6	-----	204.1	201.7
C. P. 53-1	176.2	187.6	181.9	-----	-----	-----	-----	----	-----	-----	-----	-----	-----	----	181.9
C. P. 53-18	238.7	225.7	232.2	-----	-----	-----	-----	----	-----	-----	-----	-----	-----	----	232.2
C. P. 53-15	161.1	172.7	166.9	-----	-----	-----	-----	----	-----	-----	-----	-----	-----	----	166.9
C. P. 53-125	-----	163.6	-----	-----	-----	-----	-----	----	-----	-----	-----	-----	-----	----	163.6
C. P. 48-103	189.6	188.4	188.7	193.0	184.1	174.5	170.1	180.4	173.2	193.8	164.0	178.6	195.4	181.0	189.8
N. Co. 310	227.3	204.3	215.8	228.7	220.9	180.1	160.6	197.3	149.9	231.7	189.8	191.2	216.3	205.6	216.4
C. P. 47-193	176.3	204.3	190.7	175.2	180.1	180.1	153.4	167.8	165.8	179.7	156.5	200.4	181.2	177.9	178.6
C. P. 44-101	169.7	167.8	168.8	177.4	157.4	158.1	142.4	158.3	165.8	157.0	145.4	180.0	180.2	165.9	164.5
C. P. 47-193	179.1	188.5	183.8	185.2	175.8	186.8	170.6	179.6	176.7	197.6	161.5	180.8	173.4	178.1	181.5
C. P. 36-105	169.7	165.6	167.7	185.1	160.8	178.1	153.6	169.4	138.8	184.4	164.6	190.4	164.1	164.1	167.2
C. P. 36-13	174.2	205.9	190.1	186.1	174.1	181.3	161.3	175.7	184.3	-----	-----	190.4	179.8	184.8	183.2
C. P. 43-47	172.5	169.0	170.8	175.1	174.5	199.0	140.2	162.2	163.8	189.0	155.8	172.0	169.0	169.9	167.6
C. P. 52-16	-----	-----	-----	178.9	166.6	162.1	154.0	165.4	145.6	-----	-----	153.8	-----	149.7	157.6
C. P. 52-57	153.4	166.2	159.8	170.3	159.9	153.7	139.5	155.9	-----	-----	-----	-----	-----	----	157.9
C. P. 53-16	158.9	160.6	159.8	-----	-----	-----	-----	----	-----	-----	-----	-----	-----	----	159.8
C. P. 48-117	-----	-----	-----	163.8	176.4	147.8	148.4	159.1	129.9	148.2	119.6	156.0	174.4	145.6	152.4
C. P. 50-40	-----	-----	-----	-----	-----	-----	-----	----	164.6	211.7	178.0	174.3	198.1	185.3	185.3
C. P. 52-37	-----	-----	-----	-----	-----	-----	-----	----	125.8	-----	-----	157.0	-----	141.4	143.6
C. P. 29-116	145.6	173.4	159.5	167.3	145.6	150.0	139.2	150.5	133.7	-----	-----	116.7	-----	125.2	145.1
C. P. 53-23	168.7	172.1	170.4	-----	-----	-----	-----	----	-----	-----	-----	-----	-----	----	170.4
C. P. 29-320	-----	-----	-----	172.9	182.3	186.3	166.6	177.0	172.1	-----	-----	199.5	-----	175.8	176.4
C. P. 52-67	158.2	174.6	166.4	143.2	138.9	142.3	147.9	143.1	129.9	-----	-----	150.2	-----	140.1	149.9
C. P. 52-38	-----	-----	-----	-----	163.0	-----	134.9	149.0	160.3	-----	-----	161.5	-----	161.0	160.0
L.S.D. (.05)	16.1	15.2		13.1	18.8	17.9	15.6		20.1	13.0	14.7	22.8	19.3		
L.S.D. (.01)	21.4	20.3		17.5	25.1	23.9	21.0		26.9	17.4	19.6	[illegible]	[illegible]		

superior to C.P. 44-101 in first and second stubble. In tons of cane per acre C.P. 44-101 was slightly higher than C.P. 52-68, but the latter had the advantage in sugar per ton of cane. According to the data in table 3, C.P. 52-68 may be classified as intermediate between C.P. 47-193 and C.P. 48-103 in sugar per ton of cane. It should be pointed out that the average for C.P. 52-68 second stubble is based on only 3 tests; therefore, future tests should be watched for confirmation. Also it is well to note that C.P. 52-68 did not do well in plant cane in some of the test fields in the Bayou Teche-Lafayette area (table 5). It gave excellent yields in stubble at those test sites, however.

All factors considered, however, it appears probable that C.P. 52-68 will be an excellent variety for Louisiana, and its acreage should be increased. It would perhaps be well to replace certain secondary varieties such as

Variety	Plant Cane			First Stubble				Second Stubble				Average of all crops
	Glenwood Raceland	Average	Cinclare	Glenwood Raceland	Reserve	Average	Bon Secour	Cinclare	Glenwood Raceland	Reserve	Average	
C. P. 51-24	6081	-----	----	----	----	----	----	----	----	----	----	6081
C. P. 51-21	5732	-----	----	----	----	----	----	----	----	----	----	5732
C. P. 52-68	5271	5102	6488	3863	4950	4985	5573	4097	----	3901	----	4951
C. P. 53-1	4764	4905	4835	----	----	----	----	----	----	----	3999	4831
C. P. 53-18	5691	5932	4812	----	----	----	----	----	----	----	----	4812
C. P. 53-15	4627	4747	4687	----	----	----	----	----	----	----	----	4687
C. P. 53-22	----	4626	----	----	----	----	----	----	----	----	----	4626
C. P. 44-155	5278	5197	5238	5573	4938	3845	4377	4638	3982	4625	3900	4592
C. P. 48-103	4855	4461	4658	6009	4937	4844	3421	4808	4026	4874	4134	4533
N. Co. 310	4881	4576	4729	5195	4946	3931	4065	4539	3151	4587	4239	4502
C. P. 44-101	5213	4149	4681	5443	5200	4448	3707	4700	3743	4823	4257	4496
C. P. 47-193	4538	4131	4335	4497	4555	4704	4394	4530	3251	4794	4636	4377
C. P. 36-105	5266	3918	4592	4759	4552	4542	3811	4417	2869	4319	4214	4209
C. P. 36-13	4390	4431	4411	5564	4699	4883	3842	4797	2965	----	----	4193
C. P. 43-47	4509	3998	4254	4700	4743	4542	3691	4444	2641	3755	3685	4029
C. P. 52-16	----	----	----	4780	4548	4742	3430	4529	2886	----	----	3812
C. P. 52-37	3832	3508	3670	4326	3860	3596	2430	3595	----	----	----	3493
C. P. 53-16	3477	3908	3693	----	----	----	----	----	----	----	----	3479
C. P. 48/117	----	----	----	4146	3846	3917	2766	3669	2392	3013	3386	3784
C. P. 50-40	----	----	----	----	----	----	----	----	1090	4147	2813	3765
C. P. 52-37	----	----	----	----	----	3201	3300	3251	1972	3336	2280	2844
C. P. 29-116	2539	3274	2907	4403	3690	3459	2383	3484	1639	----	1454	2616
C. P. 53-23	1771	2804	2338	----	----	----	----	----	----	----	----	2338
C. P. 29-320	----	----	----	2803	3675	3417	2799	3189	1072	----	1229	2209
C. P. 52-67	3681	2484	3083	1827	2529	3211	2171	2435	985	----	964	2167
C. P. 52-38	----	----	----	877	976	----	----	727	561	----	748	738
L.S.D. (.05)	928	926		660	516	731	821		861	747	599	950	691	
L.S.D. (.01)	1236	1236		882	691	1003	1100		1149	1012	811	1308	934	

Table 7. Results of sugarcane variety trials on light soils in the Bayou Teche-Lafayette area during 1958 (Tons of cane per acre)

Variety	Plant Cane				First Stubble				Second Stubble				Average all crops
	Billeaud	Vermerville	St. John P.	Leedy Oakley	Average	Billeaud	Vermerville	St. John P.	Leedy Oakley	Average	Vermerville	Oakley	Average
C. P. 52-68	13.60	20.99	38.72	24.50	18.21	23.12	25.99	31.10	32.00	24.88	29.67	28.73	----	28.48	28.48	26.16
C. P. 53-22	27.06	33.55	35.51	33.15	20.72	30.00	----	----	----	----	----	----	----	----	----	30.00
C. P. 53-1	20.69	27.29	39.84	32.00	22.14	28.39	----	----	----	----	----	----	----	----	----	28.39
C. P. 53-18	16.71	27.15	28.42	----	17.52	22.45	----	----	----	----	----	----	----	----	----	22.45
C. P. 51-24	19.68	26.38	----	----	----	23.03	----	----	----	----	----	----	----	----	----	23.03
C. P. 53-15	21.52	29.49	35.43	31.85	22.61	28.18	----	----	----	----	----	----	----	----	----	28.18
C. P. 44-101	16.62	26.76	30.06	30.53	21.00	24.99	25.36	31.32	31.52	24.22	28.64	28.21	40.10	22.09	31.10	27.35
C. P. 51-21	16.44	26.51	----	----	----	21.48	----	----	----	----	----	----	----	----	----	21.48
C. P. 43-47	16.24	31.65	38.04	----	22.85	27.20	28.94	33.48	30.41	----	28.42	28.92	----	23.71	23.19	26.92
C. P. 52-16	----	----	----	----	----	----	28.46	30.27	26.76	21.90	29.15	27.31	22.67	21.90	22.67	26.41
N. Co. 310	15.23	23.21	27.32	30.54	16.70	25.00	21.86	24.70	20.29	26.34	26.33	25.90	32.08	21.92	27.00	25.54
C. P. 36-105	20.04	26.25	27.71	----	20.53	26.11	29.64	26.27	28.88	----	25.80	29.85	27.42	24.70	24.24	27.25
C. P. 44-103	8.71	18.73	26.53	----	12.44	16.60	21.98	20.72	21.88	----	24.87	23.88	29.13	21.34	23.24	21.23
C. P. 47-193	13.89	24.05	24.03	----	16.46	20.25	23.18	21.24	21.20	----	24.44	27.28	29.74	16.39	20.06	21.22
C. P. 48-117	10.89	21.27	25.38	----	15.43	20.27	22.20	31.36	28.96	----	28.88	27.90	29.23	13.94	23.04	23.01
C. P. 44-155	13.69	20.36	32.97	----	12.27	19.82	25.41	28.35	24.31	----	28.48	27.61	27.46	23.04	25.25	26.82
C. P. 53-16	13.56	22.58	30.47	29.76	20.62	23.40	----	----	----	----	26.09	26.04	32.64	18.18	25.41	25.43
C. P. 53-23	13.61	24.00	27.94	24.26	15.53	21.07	----	----	----	----	----	----	----	----	----	23.40
C. P. 29-116	15.54	24.86	29.55	----	19.99	24.08	22.66	29.64	24.18	----	21.59	24.52	42.30	13.42	27.86	25.01
C. P. 52-37	17.97	26.15	31.82	----	17.32	23.32	20.17	23.16	24.99	----	20.81	22.28	----	----	----	22.80
C. P. 50-40	----	----	----	----	----	----	----	----	----	----	----	----	21.88	16.10	18.99	18.99
C. P. 52-67	17.61	23.97	38.05	27.54	15.60	24.95	19.67	21.91	17.94	9.80	15.72	17.01	----	4.06	4.06	19.44
C. P. 52-37	17.02	22.92	----	----	----	19.97	17.78	21.20	26.48	21.24	20.19	21.38	30.29	12.17	18.71	19.84
Co. 290	----	----	----	----	----	----	14.61	25.81	16.15	----	23.90	20.12	----	18.71	24.90	21.18
L.S.D. (.05)	2.93	3.46	4.81	3.06	2.70		4.75	4.15	4.79	3.15	4.21		3.93	4.69		
L.S.D. (.01)	3.89	4.59	6.42	4.15	3.60		6.39	5.58	6.40	4.38	5.62		5.28	6.26		

C.P. 36-13, C.P. 43-47, and C.P. 44-155, at least in part, with C.P. 52-68. Since C.P. 52-68 stands up well, it will probably lodge less than C.P. 36-105 under most conditions. Its inability to withstand cold (4, 9) and its susceptibility to mosaic (2, 3) are serious disadvantages of the variety.

C.P. 48-103 and N.Co. 310 averaged approximately the same as C.P. 44-101 in yields of sugar per acre. Their relative yields were slightly lower than for previous years (1) as both varieties have averaged approximately 10 percent more sugar per acre than C.P. 44-101 on light soils. N.Co. 310 is an excellent variety because of its good yields of both cane and sugar and its ability to withstand cold (4, 9). C.P. 48-103 is by far the earliest maturing among the commercial varieties and is proving its worth in that respect on many plantations. It is lacking in vigor, how-

Table 8. Results of sugarcane variety trials on light soils in Bayou Teche-Lafayette area during 1958. (Pounds of sugar per ton of cane)

Variety	Plant Cane						First Stubble						Second Stubble						Average all crops
	Billeud	Youngerville	St. John D.	Landry	Oaklawn	Average	Billeud	Youngerville	St. John D.	Landry	Oaklawn	Average	Youngerville	Oaklawn	Average				
C. P. 52-68	210.9	208.4	166.8	212.6	193.8	193.3	213.4	173.7	211.1	195.0	186.9	195.6				191.4	191.4	194.2	
C. P. 52-22	169.8	176.8	144.9	178.0	178.9	168.5												168.5	
C. P. 52-1	190.4	177.0	147.0	185.0	206.7	177.0												177.0	
C. P. 52-18	239.3	232.5	189.4		244.4	222.4												222.4	
C. P. 51-24	213.1	217.0				215.3												215.3	
C. P. 52-15	180.9	181.2	141.5	190.2	192.7	175.1												175.1	
C. P. 44-101	181.6	195.5	162.7	179.6	183.8	179.9	202.2	145.3	179.9	174.4	171.9	173.7	161.8	160.6	161.4			173.7	
C. P. 51-21	219.4	220.4				220.0												220.0	
C. P. 52-47	179.2	183.3	157.2		189.0	174.8	191.1	145.6	188.0	169.4	174.7	173.4	173.6	163.1	168.2			173.1	
C. P. 52-16							184.2	171.4	190.4	169.4	168.3	176.8		158.7	158.7			174.3	
M. Co. 310	191.8	190.0	170.3	158.2	204.7	178.5	216.3	162.4	205.3	153.1	177.7	183.1	167.8	172.5	169.7			176.9	
C. P. 36-105	165.6	153.0	169.2		173.3	165.2	173.0	147.2	175.9		158.6	163.0	172.4	142.4	159.6			163.2	
C. P. 48-103	226.3	231.9	187.3		224.9	212.0	244.6	204.3	224.4		227.5	224.1	206.6	213.6	209.2			216.8	
C. P. 36-13	179.2	193.3	163.9		204.6	181.3	201.6	162.6	206.9		189.7	189.2	163.0	168.2	165.1			182.2	
C. P. 47-193	174.5	196.1	179.3		207.9	188.5	211.1	173.7	212.3		195.7	197.1	176.5	172.3	175.1			190.0	
C. P. 48-117							195.7	127.2	177.9		176.3	167.8	149.0	134.8	151.6			162.7	
C. P. 44-155	207.4	196.2	160.1		201.8	184.0	208.9	170.6	203.9		165.5	186.5	167.6	153.1	162.4			180.4	
C. P. 52-16	179.1	177.6	128.4	167.3	179.0	162.5												162.5	
C. P. 52-23	193.9	172.6	152.6	183.7	203.8	178.5	178.0	150.9	149.8		160.9	159.1	130.6	148.9	135.0			176.5	
C. P. 52-116	169.1	163.8	109.7		188.0	149.2												130.0	
C. P. 52-57	155.5	150.9	150.4		171.0	155.3	167.2	144.3	182.0		146.0	160.5						157.8	
C. P. 30-47																		174.2	
C. P. 52-57	183.5	172.2	140.4	197.1	189.9	171.8	180.6	139.2	162.2	163.7	150.1	158.5		177.3	177.3			166.0	
Co. 290							173.9	137.5	161.4	135.0	152.0	160.3			145.8			145.5	
	156.3	152.7				154.2	176.1	108.9	133.1		124.8	130.7		119.2	144.6			135.7	
L.S.D. (.05)	14.1	19.6	20.5	14.6	17.0		16.7	15.5	19.6	25.2	15.2		16.4	20.8					
L.S.D. (.01)	18.8	26.1	27.4	19.8	22.7		22.5	20.9	26.2	35.0	20.3		22.1	27.7					

Table 9. Results of sugarcane variety trials on light soils in Bayou Teche-Lafayette area during 1958. (Pounds of sugar per acre)

Variety	Plant Cane						First Stubble						Second Stubble						Average all crops
	Billeud	Youngerville	St. John D.	Landry	Oaklawn	Average	Billeud	Youngerville	St. John D.	Landry	Oaklawn	Average	Youngerville	Oaklawn	Average				
C. P. 52-68	2868	4291	6458	5208	3530	4471	5546	5402	6795	4852	5545	5620				5436	5436	5081	
C. P. 52-22	4795	3932	5144	3901	3706	4096												4096	
C. P. 52-1	3939	4830	5858	3921	4576	5025												5025	
C. P. 52-18	3999	6312	5383		4282	4994												4994	
C. P. 51-24	4194	5724				4959												4959	
C. P. 52-15	3993	5344	5012	6099	4397	4933												4933	
C. P. 44-101	3018	5232	4992	5482	3860	4497	5128	4551	5671	4225	4922	4999	6488	3548	5018			4751	
C. P. 51-21	3607	5843				4725												4725	
C. P. 52-47	2910	5801	5980		4319	4752	4997	4875	5718		4233	4946	3636	3857	3902			4660	
C. P. 52-16							5242	5188	5951	3710	4906	4828		3476	3476			4603	
M. Co. 310	2921	4790	6397	4850	3418	4463	4728	5686	6220	4033	4678	4669	5383	3782	4582			4569	
C. P. 36-105	3319	4032	6379		3524	4214	5128	5192	5097		4109	4882	4762	2948	3855			4429	
C. P. 48-103	1971	4343	4970		2791	3519	5576	5437	4969		4747	5122	6018	3703	4860			4429	
C. P. 36-13	2346	4934	6234		3128	4213	4282	5076	4455		4236	5160	3870	2736	3313			4412	
C. P. 47-193	1900	4191	5984		3208	3821	4843	5447	5560		4448	5224	5163	2403	3784			4375	
C. P. 48-117							4343	5672	5316		3196	4632	4791	3586	4188			4344	
C. P. 44-155	2879	3993	5280	4980	2476	3648	5308	4657	4758		4318	4955	5470	2783	4126			4603	
C. P. 52-16	2423	3970	5744	4436	3291	3793												3793	
C. P. 52-23	2464	3952	4943		2798	3602	4033	4473	3623		3473	3900	5524	1998	3761			3752	
C. P. 52-116	2628	4072	4783		2962	3622	3772	3342	4548		3039	3771	3879	2736	3308			3598	
C. P. 30-47	2794	3946																3308	
C. P. 52-57	3231	4472	5344	5428	2962	4287	3532	3050	2811	1604	2359	2693		992	992			3228	
C. P. 52-57							2915	3090	2673	4380	3877	3426		1740	1740			3145	
Co. 290	2660	3900			3060		2673	2811	2149		2982	2629	3611	2706	3158			2874	
L.S.D. (.05)	618	670	984	819	612		960	678	1101	824	812		743	852					
L.S.D. (.01)	821	890	1313	1110	818		1288	1182	1472	1143	1085		995	1137					

ever, as shown by its relatively low tonnage.

C.P. 47-193 was approximately equal to C.P. 44-101 in pounds of sugar per acre. The primary advantage of C.P. 47-193 is its early maturity and it can be efficiently utilized for early-season milling, especially in the Bunkie area. Results with C.P. 47-193 in recent years have been somewhat erratic, particularly in yields of cane per acre in plant cane. The stubble is usually good, however.

Since seed cane that has been heat-treated for control of the stunting disease has been used, C.P. 36-105 has improved in yield, particularly in plant cane(8). Cane of this variety grown from heat-treated seed cane shows a tendency to lodge more than that not heat-treated, and pro-

ble 10. Results of sugarcane variety trials on light soils in the Red River area during 1958

(Shirley test field)

riety	Tons of cane per acre			Pounds of sugar per ton of cane			Pounds of sugar per acre		
	Plant cane	First stubble	Average	Plant cane	First stubble	Average	Plant cane	First stubble	Average
P. 53-18	33.04	----	33.04	181.0	----	181.0	5980	----	5980
P. 52.68	33.64	32.53	33.08	156.5	198.0	177.3	5265	6439	5865
P. 48-103	32.48	28.48	30.48	171.4	212.3	191.9	5567	6046	5849
P. 51-24	30.90	----	30.90	178.9	----	178.9	5528	----	5528
Co. 310	37.91	30.62	34.27	144.2	167.7	156.0	5467	5135	5346
P. 51-21	34.61	----	34.61	154.2	----	154.2	5337	----	5337
P. 47-193	36.00	31.53	33.73	140.4	175.3	157.9	5054	5527	5332
P. 34-120	31.23	28.45	29.84	158.1	184.4	171.3	4937	5246	5112
P. 52-16	----	31.17	31.17	----	162.6	162.6	----	5068	5068
P. 43-47	34.20	27.79	31.00	145.0	168.5	156.8	4959	4683	4861
P. 44-101	36.59	31.36	33.98	130.5	154.3	141.5	4775	4839	4807
P. 36-13	38.33	32.70	35.52	116.8	143.6	130.2	4477	4696	4625
P. 36-105	37.68	31.81	34.75	124.9	137.6	131.3	4706	4377	4563
P. 48-117	----	35.61	35.61	----	120.3	120.3	----	4284	4284
P. 44-155	30.31	28.53	29.42	118.2	161.4	139.8	3583	4605	4113
P. 53-1	36.05	----	36.05	109.7	----	109.7	3955	----	3955
P. 52-37	----	27.34	27.34	----	143.7	143.7	----	3929	3929
P. 52-57	31.32	29.84	30.58	109.4	132.1	120.8	3426	3942	3694
P. 53-15	35.23	----	35.23	101.7	----	101.7	3583	----	3583
P. 29-116	39.58	31.43	35.51	81.7	115.8	98.8	3234	3640	3508
P. 29-320	21.56	20.59	21.08	135.9	190.6	163.3	2930	3924	3442
P. 53-16	29.80	----	29.80	101.1	----	101.1	3013	----	3013
P. 52-67	32.74	19.44	26.09	102.9	126.2	114.6	3369	2453	2990
P. 53-22	30.24	----	30.24	94.9	----	94.9	2870	----	2870
P. 53-23	24.65	----	24.65	115.3	----	115.3	2842	----	2842
L.S.D. (.05)	3.86	3.13		13.2	15.4		660	687	
L.S.D. (.01)	5.13	4.18		17.5	20.5		878	916	

ucers have difficulty harvesting a dged crop of C.P. 36-105 because f its brittleness. Because of this, ne variety is not being increased in creage (5).

Four of the varieties in table 3 re still in the early experimental tage and plant-cane data only were btained. C.P. 51-21 has been in utfield tests before, but the 1958 esults are the first with progeny f heat-treated seed cane. This vari- ty matures as early as C.P. 48-103, vith approximately equal sucrose. t is apparently more vigorous than .P. 48-103 but is much higher in iber than any of the commercial arieties (1).

C.P. 53-18 is another extremely arly-maturing variety with appar- ntly better plant cane vigor than .P. 48-103 and better milling char- cteristics than C.P. 51-21. How- ver, it appears to be weak in stubble rops, and further tests will be neces- ary to determine its usefulness.

C.P. 53-1, C.P. 53-15, and C.P. 53-22 were slightly better than C.P. 44-101 in yields of sugar per acre in plant cane. C.P. 53-15 and C.P. 53-22 were superior to C.P. 44-101 in tons of cane per acre, particularly in the Bayou Teche-Lafayette area (table 9), but C.P. 53-22 was relatively low in sucrose. C.P. 53-1 appears to be the best in stubble crops (data not shown) and, consequently, is considered to be the most promising of the C.P. 53 series.

Results by test fields on light soils in the Mississippi River - Bayou Lafourche area are shown in tables 4, 5, and 6, while tables 7, 8, and 9 present the data for the test fields located in light soils in the Bayou Teche - Lafayette area. Results of light-soil tests in the Red River area are shown in table 10. Although there was considerable variation from place to place in the performance of a given variety, the summary of all tests is considered to be most reliable for variety comparisons on an annual basis. Detailed discussion of results

Table 11. Summary of trials with 11 important sugarcane varieties on heavy soils during 1958 showing averages of all locations

Variety	Crop*	Tons of cane per acre	Pounds of sugar per ton of cane	Sugar per acre	
				Pounds	Percent o C. P. 44-1
C. P. 51-21	Plant cane (1)	21.36	229.0	4891	138
C. P. 53-18	Plant cane (3)	22.59	226.3	5111	128
C. P. 53-15	Plant cane (3)	28.36	176.5	5006	125
C. P. 53-1	Plant cane (3)	24.86	183.5	4562	114
C. P. 48-103	Plant cane (4)	21.14	214.8	4540	106
	First stubble (3)	24.93	218.6	5449	120
	Average (7)	22.77	216.6	4930	112
C. P. 52-68	Plant cane (4)	24.69	189.7	4684	110
	First stubble (4)	24.29	188.9	4588	110
	Average (8)	24.49	189.3	4636	110
C. P. 36-105	Plant cane (4)	27.50	166.3	4573	107
	First stubble (4)	24.63	167.6	4129	99
	Average (8)	26.07	166.9	4351	103
N. Co. 310	Plant cane (4)	25.47	184.2	4692	110
	First stubble (4)	22.84	176.8	4038	97
	Average (8)	24.16	180.7	4365	103
C. P. 44-101	Plant cane (4)	25.37	168.2	4268	100
	First stubble (4)	24.36	171.6	4179	100
	Average (8)	24.87	169.9	4224	100
C. P. 53-22	Plant cane (3)	26.49	158.4	4197	93
C. P. 47-193	Plant cane (4)	18.60	188.5	3506	82
	First stubble (4)	19.14	190.6	3648	87
	Average (8)	18.87	189.5	3576	85

*Number in parentheses indicates the number of trials.

at individual test fields is withheld until averages for several years are available.

Some varieties that do not appear in table 3 may be of interest. For example, C.P. 51-24 has been eliminated because of its tendency to lodge and extreme brittleness of the mature stalks, even though the data indicate high yields. Yields for Co. 290, C.P.29-116, and C.P. 29-320 were very low. Planting of these varieties can no longer be recommended. C.P. 34-120 performed well at Shirley (table 10) and the results indicate that it may be used to some extent in that area on a limited basis. Its relatively high fiber content make it an undesirable cane for the mil however.

C.P. 36-13, C.P. 43-47, and C.I 44-155 have yielded more in line wit C.P. 44-101 since heat-treated see cane has been used in the tests. I must be remembered that C.P. 43-4 is extremely susceptible to the ratoo stunting disease, that C.P. 44-15 often lodges severely, and that a 3 varieties are more susceptible t cold than C.P. 44-101.

All other varieties listed in th tables will be eliminated from futur tests. Attention is called to the poo stubble yields of C.P. 52-67. Plant

Table 12. Results of sugarcane variety trials on heavy soils in Louisiana during 1958. (Tons of cane per acre)

Variety	Plant Cane					First Stubble					Average all crops
	Greenwood	Oaklawn	Cinclare	(Houma) Station	Average	Greenwood	Oaklawn	Cinclare	(Houma) Station	Average	
C. P. 51-24	-----		26.10	-----	26.10	-----	-----	-----	-----	-----	26.10
C. P. 53-18	26.54	21.88	19.34	-----	22.59	-----	-----	-----	-----	-----	22.59
C. P. 53-15	28.09	29.49	27.51	-----	28.36	-----	-----	-----	-----	-----	28.36
C. P. 48-103	24.16	16.08	14.80	29.53	21.14	21.56	-----	26.88	26.35	24.93	22.77
C. P. 51-21	-----	-----	21.36	-----	21.36	-----	-----	-----	-----	-----	21.36
C.P. 44-155	-----	-----	23.03	-----	23.03	-----	-----	24.36	-----	24.36	23.70
C. P. 36-13	-----	-----	21.52	-----	21.52	-----	-----	26.99	-----	26.99	24.26
C. P. 52-68	27.07	22.23	21.75	27.70	24.69	25.38	20.88	27.97	22.92	24.29	24.49
C. P. 53-1	25.99	23.09	25.51	-----	24.86	-----	-----	-----	-----	-----	24.86
N. Co. 310	29.48	19.86	23.02	29.53	25.47	24.58	17.73	25.34	23.72	22.84	24.16
C. P. 36-105	32.00	21.99	24.51	31.52	27.50	27.48	21.88	24.40	24.76	24.63	26.07
C. P. 44-101	26.56	22.76	20.01	32.16	25.37	20.98	19.64	28.16	28.66	24.36	24.87
C. P. 53-22	26.98	25.26	-----	27.22	26.49	-----	-----	-----	-----	-----	26.49
C. P. 43-47	24.52	23.14	23.05	-----	23.57	-----	-----	24.00	-----	24.00	23.68
C. P. 53-16	21.30	22.42	21.31	-----	21.68	-----	-----	-----	-----	-----	21.68
C. P. 52-57	21.36	22.84	21.89	25.95	23.01	19.60	-----	25.48	22.77	22.62	22.84
C. P. 47-193	21.18	16.79	17.89	18.55	18.60	24.26	11.62	23.48	17.19	19.14	18.87
C. P. 48-117	-----	-----	-----	-----	-----	22.26	18.87	23.19	23.64	21.99	21.99
C. P. 52-16	-----	-----	-----	-----	-----	16.18	14.79	23.43	21.17	18.89	18.89
C. P. 52-37	-----	-----	-----	-----	-----	-----	17.29	-----	27.06	22.18	22.18
C. P. 53-23	10.89	17.78	19.89	-----	16.19	-----	-----	-----	-----	-----	16.19
C. P. 29-116	25.79	19.82	20.25	25.95	22.95	19.88	11.40	24.24	22.05	19.39	21.17
C. P. 52-67	20.34	18.41	25.81	-----	21.52	10.51	3.47	22.56	21.81	14.59	17.56
C. P. 52-38	-----	-----	-----	-----	-----	-----	-----	14.76	-----	14.76	14.76
L.S.D. (.05)	6.85	2.78	-	2.92		-	3.27	2.67	1.94		
L.S.D. (.01)	9.16	3.72	-	3.93		-	4.49	3.55	2.60		

Table 13. Results of sugarcane variety trials on heavy soils in Louisiana during 1958
(Pounds of sugar per ton of cane)

Variety	Plant Cane					First Stubble					Average all crops
	Greenwood	Oaklawn	Cinclare	(Houma) Station	Average	Greenwood	Oaklawn	Cinclare	(Houma) Station	Average	
C. P. 51-24	-----	-----	229.0	-----	229.0	-----	-----	-----	-----	-----	229.0
C. P. 53-18	220.5	225.1	235.6	-----	226.3	-----	-----	-----	-----	-----	226.3
C. P. 53-15	177.6	178.4	173.3	-----	176.5	-----	-----	-----	-----	-----	176.5
C. P. 48-103	218.0	220.6	210.0	211.3	214.8	206.4	-----	223.1	224.0	218.6	216.6
C. P. 51-21	-----	-----	229.0	-----	229.0	-----	-----	-----	-----	-----	229.0
C. P. 44-155	-----	-----	208.5	-----	208.5	-----	-----	190.5	-----	190.5	199.3
C. P. 36-13	-----	-----	197.7	-----	197.7	-----	-----	191.1	-----	191.1	194.0
C. P. 52-68	184.5	188.1	192.5	193.9	189.7	177.1	175.8	196.8	204.2	188.9	189.3
C. P. 53-1	179.6	189.8	181.7	-----	183.5	-----	-----	-----	-----	-----	183.5
N. Co. 310	178.6	183.0	195.1	182.2	184.2	151.4	162.5	194.7	194.6	176.8	180.7
C. P. 36-105	161.5	157.4	183.1	164.2	166.3	147.4	160.2	187.2	177.4	167.6	166.9
C. P. 44-101	173.3	170.5	176.6	157.2	168.2	144.2	160.4	187.8	183.3	171.6	169.9
C. P. 53-22	158.9	147.6	-----	168.1	158.4	-----	-----	-----	-----	-----	158.4
C. P. 43-47	154.1	178.3	175.0	-----	168.9	-----	-----	191.0	-----	191.0	174.5
C. P. 53-16	159.7	193.6	171.5	-----	175.2	-----	-----	-----	-----	-----	175.2
C. P. 52-57	160.8	174.5	163.9	160.1	164.8	141.5	-----	165.6	152.6	154.2	160.3
C. P. 47-193	190.5	193.3	186.2	183.9	188.5	176.3	174.4	207.1	199.1	190.6	189.5
C. P. 48-117	-----	-----	-----	-----	-----	139.1	153.4	179.1	155.9	157.2	157.2
C. P. 52-16	-----	-----	-----	-----	-----	149.9	160.3	180.6	188.2	172.2	172.2
C. P. 52-37	-----	-----	-----	-----	-----	-----	159.0	-----	136.1	145.0	145.0
C. P. 53-23	192.1	164.3	220.1	-----	193.4	-----	-----	-----	-----	-----	193.4
C. P. 29-116	139.8	149.0	138.7	143.4	142.6	145.0	116.8	157.5	148.9	145.8	144.1
C. P. 52-67	171.2	189.7	176.9	-----	178.8	126.8	126.5	160.8	166.9	154.9	167.5
C. P. 52-38	-----	-----	-----	-----	-----	-----	-----	175.4	-----	175.4	175.4
L.S.D. (.05)	23.0	20.1	-	18.2		-	18.7	18.7	16.0		
L.S.D. (.01)	30.7	26.9	-	24.7		-	25.7	25.0	21.7		

cane data in 1957 at the Billeaud and Youngsville test fields had been promising (10).

Results of Tests on Heavy Soils

Average yields of 11 important varieties grown in tests on heavy soils are shown in table 11. Results by test fields are recorded in tables 12, 13, and 14. As shown in table 11, C.P. 44-101 is again used for making comparative evaluations. As in the light-soil tests, C.P. 44-101 was relatively low in yields of Sugar per ton of cane, but yields of cane per acre

Table 14. Results of sugarcane variety trials on heavy soils in Louisiana during 1958

(Pounds of sugar per acre)

Variety	Plant Cane					First Stubble					Average all crops
	Greenwood	Oaklawn	Cinclare	(Houma) Station	Average	Greenwood	Oaklawn	Cinclare	(Houma) Station	Average	
C. P. 51-24	-----	-----	5468	-----	5468	-----	-----	-----	-----	-----	5468
C. P. 53-18	5851	4926	4557	-----	5111	-----	-----	-----	-----	-----	5111
C. P. 53-15	4990	5261	4767	-----	5006	-----	-----	-----	-----	-----	5006
C. P. 48-103	5267	3547	3108	6240	4540	4449	-----	5997	5902	5449	4930
C. P. 51-21	-----	-----	4891	-----	4891	-----	-----	-----	-----	-----	4891
C. P. 44-155	-----	-----	4802	-----	4802	-----	-----	4641	-----	4641	4722
C. P. 36-13	-----	-----	4255	-----	4255	-----	-----	5158	-----	5158	4706
C. P. 52-68	4995	4181	4187	5371	4684	4496	3671	5504	4680	4588	4636
C. P. 53-1	4667	4383	4635	-----	4562	-----	-----	-----	-----	-----	4562
N. Co. 310	5264	3634	4491	5380	4692	3722	2882	4934	4616	4038	4365
C. P. 36-105	5167	3462	4488	5176	4573	4051	3506	4568	4392	4129	4351
C. P. 44-101	4602	3881	3534	5056	4268	3025	3150	5288	5253	4179	4224
C. P. 53-22	4286	3728	-----	4576	4197	-----	-----	-----	-----	-----	4197
C. P. 43-47	3779	4127	4034	-----	3980	-----	-----	4584	-----	4584	4131
C. P. 53-16	3401	4341	3655	-----	3799	-----	-----	-----	-----	-----	3799
C. P. 52-57	3434	3986	3588	4155	3791	2773	-----	4219	3475	3489	3661
C. P. 47-193	4034	3246	3331	3411	3506	4278	2026	4863	3423	3648	3576
C. P. 48-117	-----	-----	-----	-----	-----	3096	2895	4153	3685	3457	3457
C. P. 52-16	-----	-----	-----	-----	-----	2425	2371	4231	3984	3253	3253
C. P. 52-37	-----	-----	-----	-----	-----	-----	2749	-----	3683	3216	3216
C. P. 53-23	2092	2922	4378	-----	3131	-----	-----	-----	-----	-----	3131
C. P. 29-116	3605	2953	2809	3721	3272	2882	1331	3818	3283	2828	3050
C. P. 52-67	3483	3493	4566	-----	3847	1333	439	3628	3640	2260	2940
C. P. 52-38	-----	-----	-----	-----	-----	-----	-----	2589	-----	2589	2589
L.S.D. (.05)	1180	750	-	526		-	1136	657	510		
L.S.D. (.01)	1577	1004	-	717		-	1560	877	691		

were about normal. It is considered to be one of the better varieties for heavy soils. Four of the unreleased varieties were outstanding in plant-cane tests. Although C.P. 51-21 appeared to be outstanding, it should be pointed out that the results are for only 1 test. The data indicate that C.P. 51-21 was about equal to C.P. 48-103 in pounds of sugar per ton of cane and apparently more vigorous on heavy soil. C.P. 53-18 was also equal to C.P. 48-103 in yield of sugar per ton of cane and apparently was equal to C.P. 51-21 in tons of cane per acre, but C.P. 53-18 appears to be weaker than C.P. 48-103 in stubble. C.P. 53-15 gave relatively good yields of cane per acre. The sucrose content was slightly better than that of C.P. 44-101. C.P. 53-1 was higher than C.P. 44-101 in yields of sugar per ton of cane. C.P. 51-21, C.P. 53-1, C.P. 53-15, and C.P. 53-18 were promising enough to warrant further study on heavy soil.

Of the commercial varieties, C.P. 48-103 gave the highest average yield of sugar per acre on heavy soils, particularly in stubble cane. Although C.P. 48-103 has often yielded well on heavy soils it has frequently given extremely poor yields, particularly where weeds were prevalent. For example, yields of C.P. 48-103 at Oaklawn and Cinclare in plant cane were poor in 1958 (table 12). The results on heavy soils have been too erratic to justify an unqualified recommendation that it be grown on such soils. On the other hand the results show that it can do well on heavy soils when very good cultural practices are followed.

C.P. 52-68 gave comparatively good yields of sugar per acre in both plant cane and first stubble, indicating its adaptability to soils of heavy texture as well as to light soils. It was approximately equal to C.P. 47-193 in yields of sugar per ton of cane in these tests. On the basis of these results and those for prior years (7, 10) C.P. 52-68 should be increased on heavy soils. The number of acres should be restricted to the amount that can be harvested before danger of severe freeze, however, since the juice deteriorates rapidly after freezing (4, 9).

N.Co. 310 was approximately equal to C.P. 44-101 in yields of sugar per acre on heavy soil and considerably below its average for the past 5

ears(1). This is still one of the most vigorous varieties available, nd its outstanding cold resistance 4, 9) is a valuable asset for production on heavy soil. With the present quipment available, it can be harvested without breakage when lodged. Therefore, all factors considered, N. Co. 310 is an excellent variety for eavy soils. It must be constantly vatched for symptoms of mosaic, owever.

Yields of C.P. 47-193 on heavy oils in 1958 were relatively poor; he average was only 85 percent of .P. 44-101 in sugar per acre. This s far below the performance expect-d on the basis of results in previous ears. The primary advantage of .P. 47-193 is its relatively early naturity, and for that reason it is till considered to be a good variety or limited use on heavy soils.

C.P. 36-13 and C.P. 44-155 did omparatively well in the 2 heavy-oil tests at Cinclare, but this is not onsidered to be sufficient evidence or recommendation on such soils. Neither variety is equal to C.P. 44-01 or N.Co. 310 in cold resistance.

Summary

Thirty-three sugarcane variety rials were harvested and analyzed n 1958. Thirteen locations and practically all major soil types of the ugar belt were represented.

C.P. 52-68 was outstanding in yields of sugar per acre in 1958. In the average of all tests on light soils, it exceeded C.P. 44-101 by 14 percent in production of sugar per acre, and on heavy soils it was 10 percent better than C.P. 44-101. It was also superior to C.P. 44-101 in sugar per ton and approximately equal in tons per acre. Plant-cane yields from C.P. 52-68 were less than from C.P. 44-101 in certain test fields in the Bayou Teche-Lafayette area; however, it was superior to C.P. 44-101 in practically every stubble test.

Although in 1958 most commercial varieties gave yields that were in line with those of previous years, there were some exceptions. On both light and heavy soils, C.P. 44-101 averaged less in sugar per ton, and C.P. 48-103 and N.Co. 310 averaged less in tons of cane per acre. On heavy soils, C.P. 47-193 was lower in yields of cane per acre.

Plant-cane results were promising for C.P. 51-21, C.P. 53-1, C.P. 53-15, and C.P. 53-18 on both light and heavy soils. C.P.51-21 and C.P. 53-18 were approximately equal to C.P. 48-103 in sugar per ton of cane and both appeared to be more vigorous than C.P. 48-103. C.P. 53-1 was about equal to C.P. 44-101 in yields of cane per acre, and about equal to C.P. 44-101 in yields of sugar per ton on light soils but was higher on heavy heavy soils. C.P. 53-22 gave good tonnage, especially in western test fields, but sucrose was relatively low. All C.P. 53 varieties except C.P. 53-1 appeared to be weak in stubble, however.

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(Continued on page 305)

1959 SUGARCANE VARIETY RECOMMENDATIONS FOR LOUISIANA

Prepared jointly by personnel of the United States Department of Agriculture Sugarcane Field Station, Houma, Louisiana and the Louisiana State University Agricultural Experiment Station, Baton Rouge, Louisiana

The following recommendations are based primarily on results obtained in out field test plots under the supervision of the Federal and State stations over a period of several years. At the present time C. P. 44-101 appears to be the most valuable variety for general planting in all areas and on all soil types in the sugarcane district except in the Red River area, where yields of other commercial varieties have been above those of C. P. 44-101 and where heavy borer infestations are allowed to develop. While C. P. 44-101 is recommended generally as the major cane, other varieties have important places in the planting program.

N. Co. 310 has given yields of cane and sugar above those of C. P. 44-101 on both light and heavy soils, and is more tolerant to cold, but it is later maturing. It is more likely to lodge than C. P. 44-101, but when lodged can be handled with harvester pick-up attachments with less loss than a variety such as C. P. 36-105 which, because of its brittleness, breaks when the stalks are straightened by the harvest machines. It is susceptible to both mosaic and red rot and cane to be used for seed should be inspected for mosaic and rogued where necessary.

C. P. 52-68 has equaled C. P. 44-101 in yields of cane and has surpassed it in yields of sugar per ton on both light and heavy soils of the State except on Terrace soils of the Lafayette - Youngsville area. It is susceptible to mosaic but resistant to red rot. Cane to be used for seed should be inspected for mosaic and rogued if necessary. C. P. 52-68 will not stand cold being equal to C. P. 36-105 in that respect.

C. P. 48-103 and C. P. 47-193 have shown superiority over both C. P. 36-105 and C. P. 44-101 in some tests. C. P. 48-103 is by far the earliest maturing variety available, and a sufficient acreage should be planted for harvest during the early part of the harvest season. C. P. 47-193 is also earlier maturing than C. P. 44-101 and should be grown on the heavier soil types; however, it does not withstand freeze injury as well as C. P. 44-101 and also has a higher inversion rating. It should therefore be harvested first.

Many growers are still obtaining satisfactory results with C. P. 36-105 which is slightly earlier maturing than C. P. 44-101. It has responded to heat treatment for control of stunting disease. Cane grown from treated seed may be slightly lower in sugar content than untreated, but should produce satisfactory sucrose for medium early harvesting. It is more resistant to borer injury than C. P. 44-101 but does not withstand freeze injury as well.

C. P. 44-155, C. P. 43-47 and C. P. 36-13 are higher in sucrose than C. P. 44-101 and may be grown on well drained light soils as secondary canes where recommended below. Heat treated cane of these varieties have in some tests outyielded C. P. 44-101.

Recommendations by areas are as follows:

1. Avoyelles, Rapides, upper St. Landry and Pointe Coupee Parishes
   a. Light soils:
      C. P. 48-103 for early harvesting, N. Co. 310, C. P. 52-68, C. P. 36-105, C. P. 47-193, C. P. 44-101 and C. P. 36-13
   b. Heavier soil types:
      C. P. 47-193,[1] N. Co. 310, C. P. 52-68 and C. P. 44-101
2. East and West Baton Rouge

berville, Ascension, lower Pointe oupee and St. Landry Parishes:

a. Light Soils:
C. P. 48-103 for early harvesting, C. P. 44-101, N. Co. 310, C. P. 52-68, C. P. 36-105, C. P. 44-155 and C. P. 36-13.

b. Heavier soil types:
C. P. 47-193,[1] N. Co. 310, C. P. 52-68 and C. P. 44-101.

3. Assumption, St. James, St. ohn, St. Charles, Lafourche and 'errebonne Parishes:

a. Light soils:
C. P. 48-103 for early harvesting, C. P. 44-101, N. Co. 310, C. P. 52-68, C. P. 36-105 and C. P. 44-155.

b. Heavier soil types:
C. P. 47-193,[1] N. Co. 310, C. P. 52-68 and C. P. 44-101.

4. St. Mary, Iberia and St. Martin 'arishes:

a. Light soils:
Limited plantings of C. P. 48-103 for early harvesting, C. P. 44-101, N. Co. 310, C. P. 52-68, C. P. 36-13, C. P. 44-155 and C. P. 36-105.

b. Mixed and heavier soil types:
C. P. 47-193,[1] N. Co. 310, C. P. 52-68 and C. P. 44-101.

5. Lafayette, Vermillion and terrace soils in St. Landry Parish:

a. Light soils:
C. P. 44-101, N. Co. 310, C. P. 36-13 and C. P. 44-155.

b. Mixed and heavier soil types:
C. P. 47-193,[1] N. Co. 310 and C. P. 44-101.

[1] C. P. 47-193 is listed first for these soil types because it is earlier maturing and does not withstand freeze injury as well as C. P. 44-101. It should be harvested first. N. Co. 310 and C. P. 44-101 are higher yielding.

VARIETY TESTS

(Continued from page 303)

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QUOTATIONS ISSUED BY THE LOUISIANA SUGAR EXCAHNGE INC. ON RAW SUGAR AND BLACKSTRAP MOLASSES 1958-1959 PRICING PERIOD

Date	N. Y.	Freight	N. O.	B'strap
Oct. 10	6.45	.04	6.41	nominal
11	no market			
12	Sunday			
13	no market			
14	6.45	.04	6.41	nominal
(Quotas increased 100,000 tons to 9,200,000 tons)				
15	6.45	.04	6.40*	nominal
16	6.45	.04	6.41	nominal
Weekly Avg. Raws 6.41 Blackstrap nominal				
Oct. 17	6.45	.04	6.41	nominal
18	no market			
19	Sunday			
20	6.45	.04	6.41	nominal
21	6.45	.04	6.41	nominal
(Refining of 1959 Cuban raws authorized)				
22	6.50	.04	6.46	nominal
23	6.50	.05	6.45	13.00*
Weekly Avg. Raws 6.43 Blackstrap 13.00				
Oct. 24	6.50	.05	6.45	13.00*
25	no market			
26	Sunday			
27	6.50	.05	6.45	13.00*
28	6.50	.05	6.45	13.00
29	6.50	.05	6.45	13.00
30	6.50	.05	6.45	13.00
Weekly Avg. Raws 6.45 Blackstrap 13.00				
Oct. 31	6.50	.06	6.44	13.00
Nov. 1	no market			
2	Sunday			
3	6.50	.06	6.44	13.00
4	no market			
5	6.50	.06	6.44	13.00
6	6.45	.06	6.39	13.00
Weekly Avg. Raws 6.43 Blackstrap 13.00				
Nov. 7	6.38	.06	6.32	12.75*
(Peru quota increased 31,279 tons)				
8	no market			
9	Sunday			
10	6.33	.06	6.27	12.75
11	no market			
12	6.33	.06	6.28*	12.425*
(Mainland beet and cane quotas lifted)				
(Cuban quota increased 50,000 tons)				
13	6.33	.06	6.27	12.25
Weekly Avg. Raws 6.285 B'strap 12.54				
Nov. 14	6.33	.06	6.27	12.25*
15	no market			
16	Sunday			
17	6.30	.06	6.24	12.25*
18	6.30	.06	6.24	12.25
19	6.30	.06	6.24	12.25
20	6.30	.06	6.24	12.25*
Weekly Avg. Raws 6.25 Blackstrap 12.25				
Nov. 21	6.30	.06	6.24	12.25
Nov. 22	no market			
23	Sunday			
24	6.30	.06	6.24	12.25
25	6.33	.06	6.27	12.25*
26	6.33	.06	6.27	12.25
27	no market			
Weekly Avg. Raws 6.225 B'strap 12.25				
Nov. 28	6.33	.06	6.27	12.25
29	no market			
30	Sunday			
Dec. 1	6.38	.06	6.32	12.25
2	6.38	.06	6.32	12.00*
3	6.40	.06	6.34	11.50*
4	6.40	.05	6.25	12.00*
Weekly Avg. Raws 6.32 Blackstrap 12.00				
Dec. 5	6.40	.05	6.25	12.00*
6	no market			
7	Sunday			
8	6.45	.05	6.40	12.00
9	6.48	.05	6.43	12.00
10	6.48	.05	6.43	12.00*
11	6.48	.05	6.43	12.00*
Weekly Avg. Raws 6.41 Blackstrap 12.00				
Dec. 12	6.48	.05	6.43	12.00
13	no market			
14	Sunday			
15	6.48	.05	6.43	12.00
16	6.48	.05	6.43	12.25*
17	6.45	.05	6.40	12.50*
18	6.45	.05	6.40	12.50
Weekly Avg. Raws 6.42 Blackstrap 12.25				
Dec. 19	6.45	.05	6.40	12.75*
20	no market			
21	Sunday			
22	6.45	.06	6.39	12.75
23	6.45	.06	6.39	13.00*
24	6.40	.06	6.34	13.00
25	no market			
Weekly Avg. Raws 6.38 Blackstrap 12.875				
Dec. 26	no market			
27	no market			
28	Sunday			
29	6.40	.06	6.34	13.00
30	6.50	.06	6.44	13.00
(9,200,000 ton quota announced for 1959)				
31	6.50	.06	6.44	13.00
Jan. 1	no market			
Weekly Avg. Raws 6.41 Blackstrap 13.00				
Jan. 2	6.35	.06	6.29	13.125
3	no market			
4	Sunday			
5	6.30	.06	6.24	13.125
6	6.30	.06	6.24	13.125
7	6.25	.06	6.15**	13.125
8	6.20	.06	6.14	13.125
Weekly Avg. Raws 6.21 Blackstrap 13.125				
Jan. 9	6.13	.06	6.07	13.125
10	no market			
11	Sunday			
12	6.13	.06	6.07	13.125
13	6.15	.05	6.10	13.125
14	6.15	.05	6.10	13.125
15	6.13	.05	6.08	13.125
Weekly Avg. Raws 6.08 Blackstrap 13.125				

Date	N. Y.	Freight	N. O.	B'strap
an. 16	6.13	.05	6.08	13.125
17	no market			
18	Sunday			
19	6.13	.05	6.08	12.75*
20	6.13	.06	6.10*	12.75
21	6.15	.06	6.09	12.75
22	6.15	.05	6.10	12.75
Weekly Avg. Raws	6.08	Blackstrap		12.825
an. 23	6.10	.05	6.05	12.75
24	no market			
25	Sunday			
26	6.10	.05	6.05	12.75
27	6.10	.05	6.05	12.75
28	6.05	.05	6.00	12.75
29	6.05	.05	6.00	12.75
Weekly Avg. Raws	6.03	Blackstrap		12.75
an. 30	6.05	.05	6.00	12.50*
31	no market			
eb. 1	Sunday			
2	6.00	.05	5.95	12.50
3	6.00	.05	5.95	12.50
4	6.04	.05	5.99	12.50
5	6.02	.05	5.98*	12.50
Weekly Avg. Raws	5.97	Blackstrap		12.50

Date	N. Y.	Freight	N. O.	B'strap
Feb. 6	6.00	.05	5.95	12.50
7	no market			
8	Sunday			
9	6.00	.05	5.95	12.50
10	6.00	.05	5.95	12.00*
11	6.00	.05	5.95	12.00*
12	no market			
Weekly Avg. Raws	5.95	Blackstrap		12.25
Feb. 13	6.00	.05	5.95	12.00*
14	no market			
15	Sunday			
16	6.00	.05	5.95	12.00*
17	6.00	.05	5.95	12.00
18	5.98	.05	5.93	12.00*
19	5.98	.05	5.93	12.00
Weekly Avg. Raws	5.94	Blackstrap		12.00
Feb. 20	5.96	.05	5.91*	12.00
21	no market			
22	Sunday			
23	no market			
24	5.96	.05	5.91	12.00
25	5.95	.05	5.90*	12.00
26	5.95	.05	5.90	12.00
Weekly Avg. Raws	5.905	B'strap		12.00

* Local Sales ** Local Offers

Season's Average Prices: Raws 6.2312. Blackstrap 12.5653

NUMBER OF FARMS, PAYEES, PROPORTIONATE SHARE AND PLANTED ACREAGE, AND TONS OF CANE MARKETED FOR SUGAR 1958 CROP

Size Groups 1/ Planted Acres	Number of Farms	Number of Payees	Proportionate Share Acres	Planted Acres 1/	Tons of Cane
0.1 - 4.9	409	637	3,718.7	1,281.3	15,857.4
5.0 - 9.9	429	699	4,768.2	3,222.7	46,502.2
10.0 - 24.9	655	1127	13,423.0	11,071.5	195,738.7
25.0 - 49.9	516	1219	20,225.8	18,433.2	349,522.7
50.0 - 99.9	426	1056	32,918.0	30,542.2	616,757.0
100.0 - 199.9	241	679	35,148.7	33,642.9	703,758.7
200.0 - 299.9	93	229	23,627.8	22,636.0	471,364.5
300.0 - 399.9	47	102	17,341.1	16,366.4	344,599.6
400.0 - 499.9	32	72	15,186.7	14,579.1	281,029.7
500.0 - and above	60	116	89,712.8	88,308.2	1,839,039.5
Total	2908	5936	256,070.8	240,083.5	4,864,170.0

1 Harvested for sugar (except livestock sugar) and seed plus bona fide abandoned acres not in excess of the farm proportionate share.

TONS OF SUGARCANE GROUND FOR SUGAR, TOTAL AMOUNT PAID, AND AMOUNT PAID PER ACTUAL AND STANDARD TON OF SUGARCANE GROUND BY LOUISIANA SUGAR MILLS, 1958 CROP

	Company-Owned Sugarcane				
	Actual Cane Tons	Standard Cane Tons	Amount Paid: Acct. Cane	Acct. Molasses	Total
Freight Area (a)	1,165,471	1,261,691	$8,337,518.39	$263,695.63	$8,601,214.02
Amount paid per actual ton			$7.154	22.63¢	$7.380
Amount paid per standard ton			$6.608	20.90¢	$6.817
Freight Area (b)	574,824	623,111	$4,062,707.73	$129,626.96	$4,192,334.69
Amount paid per actual ton			$7.068	22.55¢	$7.293
Amount paid per standard ton			$6.520	20.80¢	$6.728
Freight Area (c)	292,740	311,007	$2,005,677.33	$66,305.21	$2,071,982.54
Amount paid per actual ton			$6.851	22.65¢	$7.078
Amount paid per standard ton			$6.449	21.32¢	$6.662
STATE	2,033,035	2,195,809	$14,405,903.45	$459,627.80	$14,865,531.25
Amount paid per actual ton			$7.086	22.61¢	$7.312
Amount paid per standard ton			$6.561	20.93¢	$6.770

	Independent Growers' Sugarcane				
	Actual Cane Tons	Standard Cane Tons	Amount Paid: Acct. Cane	Acct. Molasses	Total
Freight Area (a)	1,574,317	1,719,351	$11,269,346.15	$ 337,854.21	$ 11,607,200.36
Amount paid per actual ton			$7.158	21.46¢	$7.373
Amount paid per standard ton			$6.554	19.65¢	$6.751
Freight Area (b)	876,475	945,493	$ 6,162,114.85	$ 197,586.34	$ 6,359,701.19
Amount paid per actual ton			$7.031	22.54¢	$7.256
Amount paid per standard ton			$6.517	20.90¢	$6.726
Freight Area (c)	384,201	407,614	$ 2,628,725.75	$ 87,021.21	$ 2,715,746.96
Amount paid per actual ton			$6.842	22.65¢	$7.069
Amount paid per standard ton			$6.449	21.35¢	$6.663
STATE	2,834,993	3,072,458	$20,060,186.75	$ 622,461.76	$ 20,682,648.51
Amount paid per actual ton			$7.076	21.96¢	$7.295
Amount paid per standard ton			$6.529	20.26¢	$6.732

	TOTAL				
	Actual Cane Tons	Standard Cane Tons	Amount Paid: Acct. Cane	Acct. Molasses	Total
Freight Area (a)	2,739,788	2,981,042	$19,606,864.54	$601,549.84	$20,208,414.38
Amount paid per actual ton			$7.156	21.96¢	$7.376
Amount paid per standard ton			$6.577	20.18¢	$6.779
Freight Area (b)	1,451,299	1,568,604	$10,224,822.58	$327,213.30	$10,552,035.88
Amount paid per actual ton			$7.045	22.55¢	$7.271
Amount paid per standard ton			$6.518	20.86¢	$6.727
Freight Area (c)	676,941	718,621	$ 4,634,403.08	$153,326.42	$ 4,787,729.50
Amount paid per actual ton			$6.846	22.65¢	$7.073
Amount paid per standard ton			$6.449	21.34¢	$6.662
STATE	4,868,028	5,268,267	$34,466,090.20	$1,082,089.56	$35,548,179.76
Amount paid per actual ton			$7.080	22.23¢	$7.302
Amount paid per standard ton			$6.542	20.54¢	$6.748

Freight Area (a)—All mills except those included in Freight Areas (b) and (c)—25 mills

Freight Area (b)—Mills located north of Bayou Goula between the Atchafalaya and Mississippi Rivers southeast of New Iberia west of the Atchafalaya River—14 mills

Freight Area (c)—Mills located north and west of New Iberia west of the Atchafalaya River—9 mills

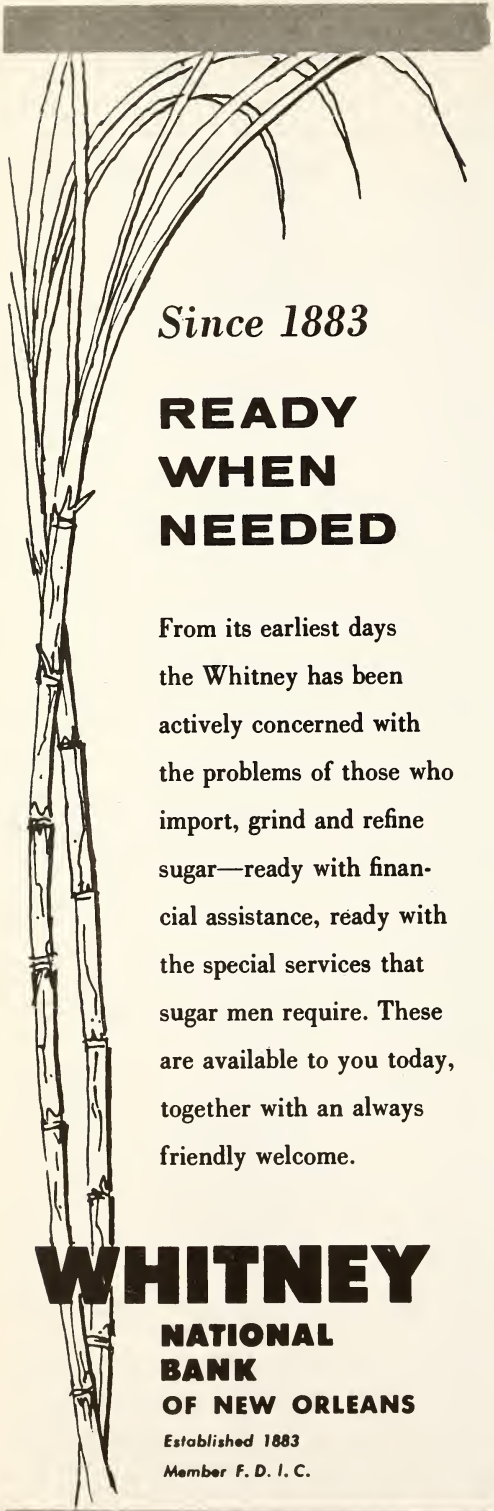
NUMBER OF PRODUCER-PAYEES, NUMBER OF FARMS GROWING SUGARCANE, AND AVERAGE SUGARCANE ACREAGE GROWING PER FARM IN LOUISIANA, 1937-1958

Crop year	Number of producer-payees	Number of farms	Average sugarcane acreage growing per farm
1937	16,572	10,260	30.1
1938	16,901	10,468	28.3
1939	17,701	10,918	24.5
1940	15,635	9,332	28.4
1941	14,509	8,599	30.7
1942	14,329	8,671	34.4
1943	13,439	8,052	36.1
1944	12,662	7,556	36.5
1945	10,344	6,304	44.0
1946	10,151	6,141	47.8
1947	9,605	5,689	52.8
1948	10,208	5,957	50.2
1949	9,711	5,559	54.1
1950	9,047	5,028	60.2
1951	8,755	4,833	58.0
1952	8,237	4,463	66.0
1953	7,540	4,010	75.8
1954	7,384	3,883	70.3
1955	7,424	3,861	66.4
1956	7,176	3,703	62.6
1957	6,639	3,343	74.3
1958	5,936	2,908	82.6

Name of Factory	Gross Tons of Cane Ground For Sugar	Net Tons of Cane Ground For Sugar	Pounds of Refined Granulated
Albania	88,529	83,256	—
Alma	93,247	86,509	—
J. Aron & Co. (Supreme)	168,738	156,304	25,240,900
Billeaud	80,738	76,884	—
Breaux Bridge	61,675	57,425	—
W. T. Burton Ind. (Cedar Grove)	83,466	76,523	—
Caire & Graugnard (Col.)		Not Released	
Caldwell	137,393	128,009	—
Catherine (L)	82,325	76,281	—
Columbia (F)	62,898	59,259	—
Cora-Tex		Not Released	
Cypremort	88,127	82,676	—
Dugas & LeBlanc (Westfield)	131,334	121,184	—
Duhe-Bourgeois	103,710	98,462	—
Erath	66,808	62,903	—
Evan Hall	240,780	226,390	—
Evangeline	56,536	52,457	—
Frisco (San Francisco)	26,757	25,030	1,877,200
Glenwood	166,991	156,851	—
Gulf States (Raceland)	217,152	203,304	—
Helvetia	86,322	81,677	—
Iberia	156,770	151,055	—
Lafourche (Leighton)	193,374	176,895	—
H. L. Laws (Cinclare)	89,604	82,059	—
Levert—St. John	116,703	108,518	—
La. State Penitentiary	47,888	43,249	—
Lula	127,844	117,798	—
Meeker	63,884	58,622	—
Milliken & Farwell (Little Tx)	55,955	52,902	—
Milliken & Farwell (Smithfield)	102,794	95,718	—
M. A. Patout & Son (Ent)	139,146	130,906	—
Natl. Sug. Ref. Co.	84,910	78,190	13,336,050
Poplar Grove	75,430	70,878	—
St. James	135,780	129,324	—
St. Mary	135,746	128,012	—
South Coast Corp. (Ga.)	120,107	113,792	22,234,945
South Coast Corp. (Oaklawn)	177,070	165,935	—
South Coast Corp. (Terrebonne)	151,333	140,248	—
Southdown (Armant)	139,292	130,819	—
Southdown (Greenwood)	142,869	132,817	—
Southdown (Southdown)	159,251	147,334	28,173,121
Sterling	210,968	200,675	—
Supples (Catherine)	81,865	78,720	5,630,900
Valentine	124,342	115,409	—
Vida	53,025	50,204	—
A. Wilbert's Sons	100,296	90,672	—
Young's Ind	61,797	58,873	—
La. State University	1,068	1,007	—

CANE MILLS, 1958 CROP

Sugar Actually Produced			Blackstrap Molasses	
Turbinados	Raw Sugar	Total Sugar Prod. Raw Value	Gallons Produced	Gallons Prod. 80° Brix
—	15,381,625	15,763,858	559,682	559,768
—	14,544,561	14,648,918	542,600	542,600
—	—	27,007,763	1,265,087	1,282,550
—	12,406,587	12,756,104	478,123	572,900
—	9,726,540	9,902,200	342,888	408,287
—	12,555,248	12,817,810	485,383	502,235
—	—	7,297,601	0	0
—	23,721,960	24,176,307	677,338	851,600
—	13,983,551	14,124,207	479,135	591,415
—	10,891,361	11,040,028	390,120	463,164
4,574,800	136,321	4,985,844	0	0
—	15,138,420	15,350,358	430,194	515,122
—	21,893,421	22,318,700	773,900	848,841
—	17,644,742	18,103,631	664,180	752,931
—	10,932,000	11,100,167	364,471	426,390
—	40,320,180	41,103,399	1,319,042	1,554,390
—	9,156,350	9,279,732	305,131	354,221
—	—	1,992,836	0	0
—	29,166,790	29,656,792	1,066,343	1,073,756
29,354,300	6,748,733	38,727,260	1,332,653	1,348,784
—	14,094,384	14,381,016	443,841	547,000
—	28,319,200	28,870,086	734,660	902,606
—	33,357,920	33,959,230	984,278	1,049,314
—	14,778,820	14,957,274	495,757	495,757
—	18,732,051	19,328,667	605,283	649,820
—	5,393,520	5,495,458	453,210	543,290
—	22,422,978	22,715,194	741,261	808,645
—	9,447,500	9,809,575	458,774	459,691
—	7,981,150	8,135,904	78,371	80,393
—	16,385,228	16,548,671	642,651	664,805
—	23,642,800	24,031,724	870,000	892,632
—	—	13,336,050	518,912	541,998
—	12,289,060	12,489,064	410,269	511,704
—	24,799,904	25,251,262	631,800	797,968
—	23,151,880	23,890,028	636,000	778,961
—	—	22,234,955	668,527	668,527
25,000,000	4,777,217	31,488,666	1,072,178	1,227,534
—	26,723,420	27,156,005	743,209	882,824
—	24,600,750	25,171,180	625,661	749,392
—	25,164,850	25,829,831	775,806	848,509
—	276,945	28,450,066	754,028	920,559
—	40,962,705	41,909,353	1,178,747	1,297,110
—	4,543,500	10,570,037	0	0
21,150,700	165,900	22,626,232	733,954	849,292
—	9,384,410	9,600,380	264,100	289,214
—	14,899,265	15,178,775	521,330	537,605
—	9,630,228	9,867,854	354,873	411,959
—	147,240	150,420	0	0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DEFICITS PRORATED

The U. S. Department of Agriculture announced August 6th that quota deficits of 100,000 tons of sugar for Hawaii, 196,500 tons for Puerto Rico, and 3,500 tons for the Virgin Islands.

These deficits, totaling 300,000 tons, were prorated to the following areas: Domestic Beet Sugar, 170,516 tons; Mainland Cane Sugar, 52,470 tons; and Cuba, 77,014 tons.

The deficits are based upon the quantity of sugar each deficit area is expected to deliver to the continental United States during the calendar year 1959.

Expected deliveries from Puerto Rico and the Virgin Islands reflect production figures that have become available since completion of the harvests.

Estimated deliveries for Hawaii are less certain because the harvesting of cane will continue until late in the year. The Hawaiian industry has recently estimated 1959 production of sugar at 975,000 tons. Allowing for the possibility of slightly higher production and the likelihood that the large beginning-of-the-year stocks in the Islands may be reduced somewhat, the deficit for Hawaii is now conservatively estimated at 100,000 tons.

The deficit prorations and adjusted quotas are as follows:

Area:	Proration (Short tons, raw value)	Adjusted Quota
Domestic Beet Sugar	170,516	2,169,233
Mainland	52,470	667,494
Hawaii	(100,000)	1,015,479
Puerto Rico	(196,500)	969,875
Virgin Islands	(3,500)	12,405
Cuba	77,014	3,137,489

Despite the declaration of deficits, the full quotas for Hawaii, Puerto Rico, and the Virgin Islands remain available to those areas. Quotas for foreign countries other than Cuba remain unchanged.

Recapitulation of Final Manufacturing Reports of Florida Sugar Cane Factories, Crop 1958-59

	STATE 3 FACTORIES
Crop days, average	114.79
Lost time, % total time	9.41
Tons cane ground (gross)	1,357,186
Tons cane ground (net)	1,302,899
% Total cane ground	100.00
Tons cane ground per hour	121.27
Extraction, N.J. % cane	75.20
Sucrose extraction, %	90.53
Maceration, % cane	19.47
Fibre, % cane	12.70
Java ratio	79.55
Analyses:	
Crusher juice Brix	17.78
Crusher juice sucrose	15.01
Brix factor	97.41
Sucrose factor	95.74
Normal juice Brix	17.32
Normal juice sucrose	14.37
Normal juice purity	82.97
Factory syrup Brix	61.13
Residual juice Brix	9.00
Residual juice purity	75.42
Bagasse, % sucrose	3.85
% moisture	51.59
% fibre	43.27
Press cake, % sucrose	2.95
Sucrose balance:	
B/S Mols. Sucrose in, % cane	.948
Press cake, sucrose in, % cane	.114
Undetermined " " " "	.209
Bagasse " " " "	1.130
Total losses " " " "	2.401
Sugar " " " "	9.539
Cane, total sucrose in, % cane	11.940
Lbs. 96° sugar M&E, T/Net cane	207.01
Lbs, sugar M&E, T/Gross cane	198.73
Gallons, B/S Mols., 80° Brix T/G. Cane	5.40
Boiling House Efficiency	96.12

IN WASHINGTON

(Continued from page 288)

a non-voting observer, and the Senate by its vote gave consent to such accession. The cost of United States participation in the Agreement is approximately $17,000 yearly.

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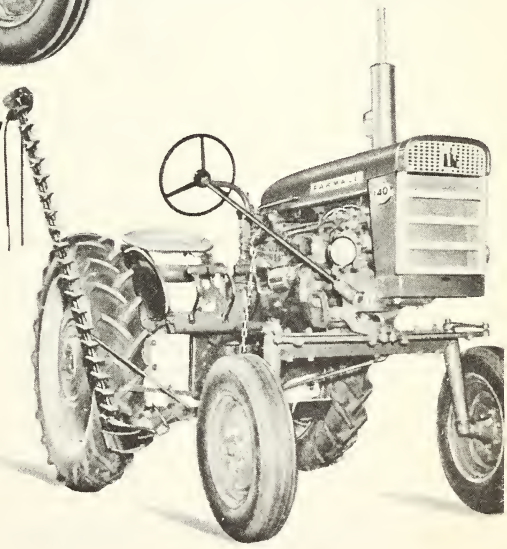

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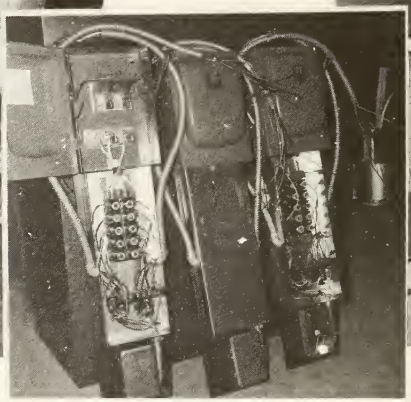
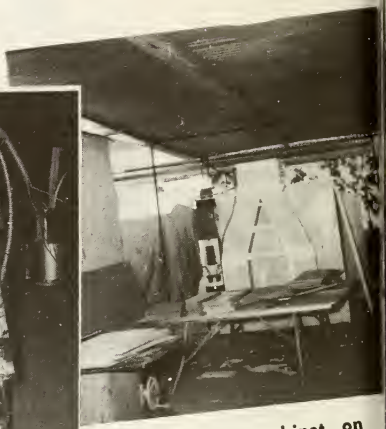


Pre-Fab electrical systems developed especially for this heat treatment unit



Heat treatment cabinet on the production line, view of rear of box showing duct work and Pre-Fab electrical system attached

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THE SUGAR BULLETIN

Vol. 37—No. 23 SEPTEMBER 1, 1959

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Published on the First and Fifteenth of each month
in the interests of the Domestic Sugar Cane Industry

THE SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

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Josiah Ferris, Manager

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UP FRONT WITH THE LEAGUE

by A. W. Dykers

Tax Exemptions

As most farmers probably do not know, and the League has just learned, in certain cases amounts paid for repairs to farm machinery and equipment are *not* subject to the Louisiana Sales Tax. The tax is *not due* only in those cases where the repairs are made to equipment or machinery owned by a farmer and located and used on land owned by the same farmer. Also, for the exemption to be applicable, the repairs must be furnished by a repair shop or some person other than the farmer. If a farmer buys parts and repairs his own equipment, the tax is due on the price of the parts. The same exemption is applicable, under the same conditions, to repairs furnished a sugar factory. The full opinion rendered the League's attorney by the legal division of the State Department of Revenue is as follows:

"The Louisiana General Sales Tax Law levies a tax on the amount of charges for repairs to *tangible personal property*. In determining what is and what is not tangible personal property, this Department is guided by the rules of property law expressed in the Louisiana Civil Code, distinguishing between movable and immovable property. Article 468 of the Civil Code reads as follows:

"Things which the owner of a tract of land has placed upon it for its service and improvement, are immovable by destination.

Thus the following things are immovable by destination when they have been placed by the owner of the service and improvement of a tract of land, to-wit:

Cattle intended for cultivation.

Implements of husbandry.

Seeds, plants, fodder, and manure.

Pigeons in a pigeon house.

Beehives.

Mills, kettles, alembics, vats and other machinery made use of in carrying on the plantation works.

The utensils necessary for working cotton, and sawmills, taffia distilleries, sugar refineries and other manufactures.

All such movables as the owner has attached permanently to the tenements or to the buildings, are likewise immovables by destination."

"Thus it may be seen that a piece of farm equipment which would ordinarily be considered movable property may acquire the legal classification of immovable property when the owner of a tract of land places the equipment upon it for its service and improvement. An important test which must be met is that both the equipment and land belong to the same owner. It is immaterial whether he lives on the land or whether he may live on other property which he does not own."

As to the practical matter of establishing the exemption in individual cases, it is suggested that whenever the owner of farm equipment orders repairs and claims that they should be exempt from the tax, the repair shop should secure from the owner a signed statement of the essential fact that the owner of the equipment also owns the tract of land upon which the equipment has been placed for its service and improvement. When such a certificate is furnished to the repair shop, it is then author-

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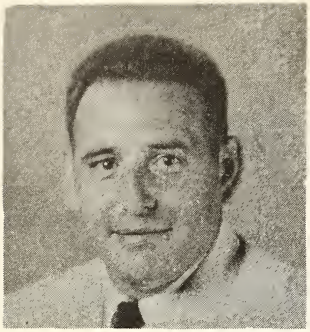


IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

Cultivation Questions

Frequent rainfall throughout most of the sugar belt since early May has given rise to many questions about cultivation, weed control, and fertilizing.

In early May it would have been difficult to find anyone to argue against this crop being the best worked and cleanest on record. Then came the rains. In some areas growers were not able to do any cultivation in the month of May. Some growers were able to get one cultivation in during the first week of May but were unable to get back into the fields for cultivation until the middle of June.

It was this period that gave rise to many questions. By middle June the crop was tall; the fields were grassy, and in some cases, the rains still persisted. The question asked most frequently was, "should this grassy, tall cane be cultivated at this late period." The question which followed immediately was, "will breaking the stalks and cutting the roots during this late cultivation be worse for the crop than the grassy fields." The third question posed, and most frequently, by those who did not care to cultivate late, was, "will an application of chemical weed killer be beneficial without a lay-by cultivation."

Some few growers who apply nitrogen in split applications were caught in the unfortunate position of having put down only the first application. The question asked by these growers was, "will the late second application of nitrogen by conventional means retard growth more by tearing roots and breaking cane than will result from skipping the second application of nitrogen." The second question asked by these growers was, "could the second application of nitrogen be put on by airplane and would this late application of nitrogen delay maturity."

Other questions have come up lately. Some growers have reported cane turning pale yellow. A few farmers have suggested that nitrogen has been leached or washed from the soil and the crop is suffering from lack of nitrogen. Others have contended that frequent rainfall followed by hot sunny weather has caused some degree of cane scald.

To answer any of these questions correctly is not an easy matter. It is very difficult to say what would have happened to cane cultivated late in June which was followed by an extended drought. It is also difficult to say what would have happened to the extremely grassy cane which was cultivated late had it not been cultivated. Many growers have reported that late cultivated cane was damaged and growth has been slow following this work in spite of the rainfall which followed. It must be remembered that the only cane which was cultivated last and late was that cane which was the shortest and the poorest on the farm at the time. It is therefore unfair to compare this cane now with cane which was too tall to be cultivated at that time. It is reasonably fair, however to compare cane cultivated late with other nearby cane not cultivated late of the same

(Continued on page 326)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Secretary of Labor Mitchell has announced he will hold a Public Hearing on his proposals to amend the regulations under which the United States Employment Service supplies migrant workers to farmers. He said the purpose of his proposed regulations is to prevent the use of tax supported facilities in undercutting prevailing wages, working conditions, and transportation practices in areas where farmers recruit workers from out-of-State sources.

The Hearing will be held in Washington, D. C., on September 10, and 11, 1959, at 10:00 a.m. in Conference Room B of the Inter-Departmental Auditorium.

The key provisions of the presently proposed regulations would require any farmer who wishes to recruit foreign or domestic workers from other states, through the State and Federal Employment Service to:

1. Offer to pay domestic workers the prevailing wages paid for similar work in the area.
2. Provide housing "reasonably calculated to accommodate *available* domestic agricultural workers", conforming to state or local laws, or in the absence thereof, as determined by State authorities to be satisfactory when measured against specified standards issued by federal authority.
3. Provide (pay) transportation for domestic workers at least equal to that provided by employers in the area or in *other areas* who recruit workers are from the same area of supply.
4. Provide *other* terms and conditions of employment not less than those prevailing in the area of employment.

A number of farm organizations are very much opposed to the proposed regulations which are purely administrative. Their leaders say they fear that when any government agency undertakes a regulatory program such as that suggested by Secretary Mitchell it could easily result in aspects of regulations not originally envisaged by Congress. Spokesmen for these farm organizations are scheduled to appear at the hearing and challenge the use of the Wagner-Peyser Act as a proper and adequate basis for the issuance of Secretary Mitchell's proposed regulations. They will emphasize that Congress has never affirmatively or intentionally authorized the Department of Labor to undertake any such regulatory program. The farmers, they say, have a right to expect that any program of this kind shall be initiated only as the result of specific Congressional action. They maintain that the present proposals are only a beginning and that in future years the regulations will be revised and strengthened and will undertake new aspects of farm labor control not now envisaged.

Congressional leaders are trying for adjournment on September 5th, if there is no determined effort by proponents of Civil Rights Bills for passage this session. Senate Majority Leader Lyndon Johnson has given official notice that the Senate will stay in session until the middle of

(Continued on page 327)

Crowned with a special coronet of sugar cubes, Miss Marcy Lancaster, "Queen Sugar 17th", accepts a gavel from Charles S. Lowry, president of the New York Coffee & Sugar Exchange. Minutes later, "Queen Sugar" wielded the gavel to open trading on the Exchange, and then gasped as the floor traders shouted their quotations back and forth across the ring.

ONG TERM EFFECTS OF HEPTACHLOR AND ENDRIN ON BORER POPULATIONS

by W. H. Long,[1] S. D. Hensley,[2] E. J. Concienne [1] and W. J. McCormick [2]

One year ago some sugar cane rowers in southern Louisiana who id not follow state and federal recmmendations lost greater portions f their crops to the sugarcane borer ollowing the application of heptahlor for fire ant control than they vould have lost under otherwise simlar circumstances had no heptachlor een applied (Long, *et al.* 1958). One ear later (1959) casual observaions indicated that there were still nore borers in sugar cane fields reated with heptachlor during the pring of 1958 than there were in omparable fields which had received o heptachlor treatment.

Some observers ventured to guess hat first generation borer infestaions during 1959 have also been eavier in fields treated with endrin or borer control in 1958 than in ields which received no endrin treatnents last year.

Two surveys were conducted durng early June, 1959, to determine vhat conditions actually existed. One vas made to determine the magniude of the differences in borer inestation between cane fields treated vith heptachlor in the spring of 1958 nd comparable fields which received o heptachlor treatment. A second survey was made to determine whethr or not more borers were present n cane fields which had been treated the previous year with four applicaions of endrin for borer control han in comparable fields which had never been treated with endrin.

Methods.—In the heptachlor survey, borer killed plants, or "deadhearts," were counted in 44 fields of St. Mary and Iberia Parishes, making a total of 22 comparisons between heptachlor-treated fields and comparable fields which had not been treated with heptachlor. Fields were examined in the vicinities of Franklin, Baldwin, and Jeanerette, Louisiana.

The selection of fields in each area was made by a predetermined method to prevent bias. Counts were made only in stubble cane without regard to variety. Sampled fields with the same treatment history were usually not less than ¼ mile apart. Fields compared with one another were sometimes separated only by a road with accompanying ditches and headlands, and were never more than about three miles apart.

TABLE 1
Survey for borer deadhearts in heptachlor-treated and untreated cane fields of St. Mary and Iberia Parishes, June 3, 1959.

Vicinity	Number of Comparisons	Average Numbers of Deadhearts Per Acre	
		Heptachlor	Untreated
Franklin	9	2,681	786
Baldwin	5	2,930	155
Jeanerette	8	1,512	300
	22	2,312	384

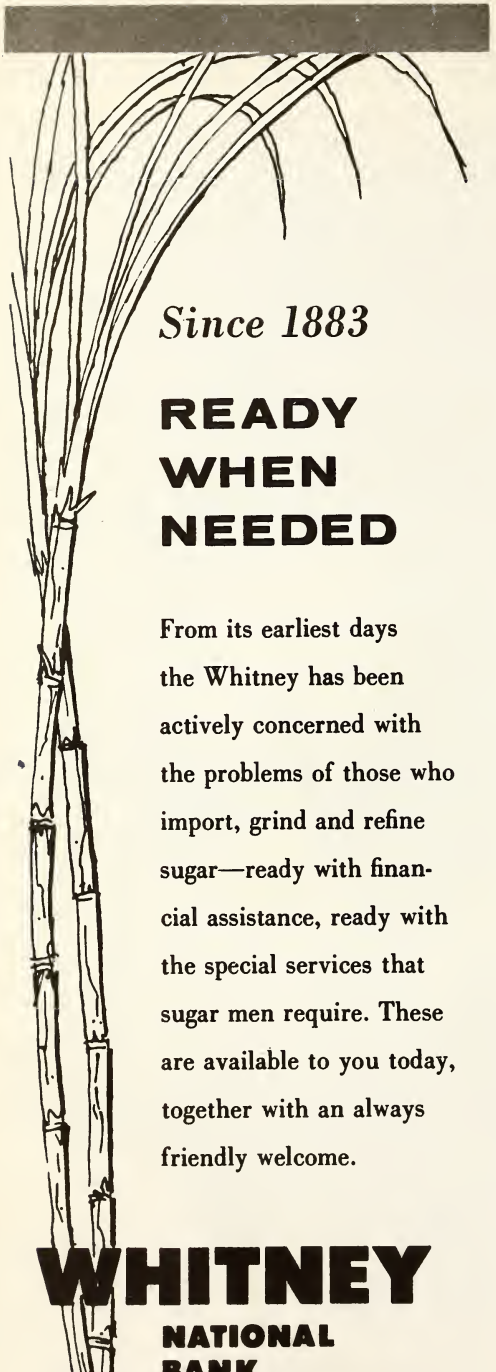
TABLE 2
Survey for borer deadhearts in endrin-treated and untreated cane fields of south Louisiana, June 4-10, 1959.

Vicinity	Number of Comparisons	Average Numbers of Deadhearts Per Acre	
		Endrin	Untreated
Centerville	8	256	369
Franklin	12	721	1102
LaRose	8	244	569
McLeod	6	112	92
Napoleonville	4	131	412
	38	364	603

The number of borer deadhearts found in four samples taken three rows apart was recorded for each field. Each sample consisted of approximately 72 linear feet (24 paces or approximately 1/100 acre) along a single row of cane. From these counts a figure representing the average number of deadhearts per acre was calculated for each field.

In the endrin survey, deadhearts

(Continued on next page)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were counted in 76 fields in the vici nities of Centerville, Franklin, La Rose, McLeod and Napoleonville Louisiana. A total of 38 comparison were obtained between endrin-treat ed fields and comparable fields whicl had never been treated with endrin.

None of the fields examined in either survey had been treated witl both heptachlor and endrin.

Results.—Table 1 shows an aver age of 2,312 deadhearts per acre in fields treated with heptachlor th previous year, while 384 deadheart per acre were found in comparabl fields which had never been treate for fire ant control. Thus there wer on the average, about six times a many first generation borers in hep tachlor-treated areas as in compara ble check areas. The difference be tween the two areas is statistically significant ($P<.001$).

Table 2 shows an average of 36 deadhearts per acre in fields whicl received four applications of endrin for borer control the previous year Six hundred three deadhearts pe acre, or almost twice as many, were found in comparable fields which had not been treated for endrin. The difference between endrin and check fields is not significant at the 5 per cent level, but is significant at $P = 0.10$.

Discussion.—These results clearly show that, after approximately one year, there were several times more borers in cane fields where heptachlor had been applied for fire ant control than there were in comparable fields which never had been treated with heptachlor.

The data also strongly indicate the presence of fewer borers in fields treated the previous year with endrin than in comparable fields which had not been treated with endrin or heptachlor.

The data do not explain why these differences exist; however, it is reasonable to assume that the heptachlor effect resulted from a treatment which suppressed natural enemies of the borer more effectively

ıan it suppressed borer populations. 'he apparent difference between en-rin-treated and check fields may be ue to a smaller borer "carry-over" ı fields treated the previous year ıith endrin for borer control.

Literature Cited

V. H. Long, E. A. Cancienne, E. J. Concienne, R. N. Dopson, and L. D. Newsom. 1958. Fire ant eradication program increases damage by the sugarcane borer. Sugar Bul. 37(5): 62-63.

[1] Department of Entomology Research, ouisiana State University, Agricultural xperiment Station.

[2] Entomology Research Division, Agricultural Research Service, U.S.D.A.

—o—

JP FRONT

(Continued from page 319)

zed to omit the sales tax from its ill for the repair charges."

Hi Sugar

"The sweetest welcome in all the vorld awaits you at the Eighteenth ouisiana Sugar Cane Festival and 'air". These words appear on the over of the program for the Fair his year and on page 322 of this issue ou will see one good reason why the nanagement is able to make this tatement. We refer, of course, to he person on the right, naturally.

To get down to business. The Eighteenth Louisiana Sugar Cane Festival and Fair will be held in New Iberia on September 25th, 26th, and 27th and we suggest that you start planning right now to pay the good folk in this Queen City of the Teche a visit.

For the record, we note that the Sugar Cane Golf Tournament will be held a week in advance of the main events, September 19th and 20th to be specific. This offers an opportunity for anyone who can drive straight and putt like a fiend to come off with a prize before the Fair even gets started!

The program of events follows:

Friday, September 25th

Blessing of Crops	10:00 A.M.
Quick Pistol Draw Contest	1:00 P.M.
Quarter Horse Show	1:00 P.M.
Agricultural Parade (Jeanerette)	7:00 P.M.
Street Dance (Fais Dodo)	8:30 P.M.

Saturday, September 26th

Children's Parade	10:00 A.M.
Queen's-Maids Luncheon	12:00 Noon
Colored Parade	2:00 P.M.
Pig Auction	3:00 P.M.
Coronation of Queen Sugar XVIII	8:15 P.M.
Queen's Ball	10:00 P.M.

Sunday, September 27th

Boat Races	12:00 Noon
Queen's Parade	2:00 P.M.
Horse Show	3:00 P.M.
King and Queen's Reception	5:00 P.M.

Throughout Friday, Saturday and Sunday the Agricultural Fair, the Commercial Exhibits, the Photography Exhibits, the Art Exhibits, the Mechanical Exhibits, and the Flower Show will be open to the public.

Position Wanted

A gentleman from India came in to see us a few days ago and convinced us that we could give international relations a big boost by mentioning the fact that he would like a job in farm management on a Louisiana plantation.

Being strictly in favor of harmony among nations we hasten to advise that Mr. C. A. Parikh, the holder of a Bachelor of Science Degree from India and a Master's Degree in Agricultural Economics from L.S.U., is available.

Mr. Parikh assures us that he is agreeable (which he certainly was when we talked with him) and that he is willing to work. For further information write him at 3278 Ivanhoe Street, Baton Rouge, La.

IN THE FIELD

(Continued from page 320)

variety on the same soil type and in about the same condition at the time. Observations of the writer indicate that middle and late June cultivation did more harm than good. Indications are that the application of chemical weed killers used at this time and later without a lay-by cultivation did some good and was worth while.

At least one grower applied nitrogen to a small amount of cane by airplane in July. Several sucrose tests can be taken of this cane and compared with cane not receiving this treatment to indicate whether or not maturity is delayed by July application of fertilizer by airplane.

Some of these questions arise each year. Frequently an area receives an excessive amount of rainfall at lay-by time. This delays the lay-by operations and gives rise to the long debated question of whether or not the crop should be cultivated late.

There are many other question about cultivation that come up ever year. Is the stubble digger a goo tool? Should cane remain on the off bar furrow for any length of time Is it better to off-bar and return th soil immediately in the same opera tion? Is it necessary to cultivate a many times as is the practice? Ca herbicides take the place of a culti vation operation?

It appears logical that researcl directed toward answering some o these questions would prove extreme ly valuable.

The Louisiana sugar industry i certainly grateful for all the excel lent research being conducted on sug ar cane by the scientists of L.S.U and the U.S.D.A. Without this wor the industry would not exist. It i hoped, however, that when time an funds become available some studie will be started on cultivating prob lems.

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N WASHINGTON

(Continued from page 321)

ctober if necessary to give all s colleagues ample opportunity to peak their pieces on the Civil Rights sues.

Should the session end September h there will be no amendments to ie Wage and Hour Law, although veral bills pending would extend ie coverage, shortened hours and in- eased wages. However, these bills re still in committee and probably ill not be reported out until next ear. Then agricultural interests had etter look sharp because there is a nance they may lose the seasonal ex- mptions they now enjoy.

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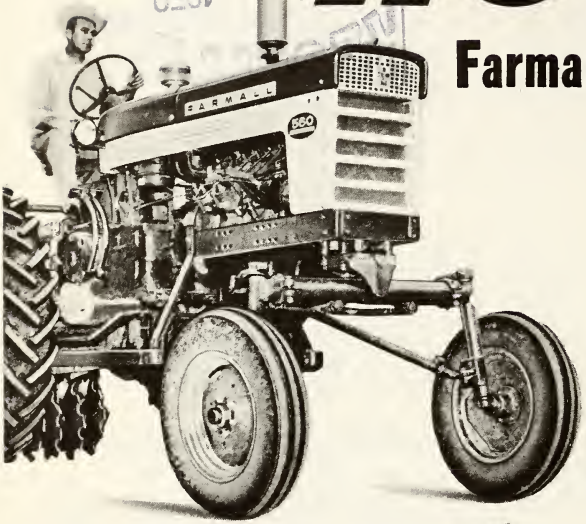

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THE SUGAR BULLETIN

. 37—No. 24 SEPTEMBER 15, 1959

cial Bulletin of the American Sugar Cane League of the U. S. A.

Announcing The

THIRTY-SEVENTH ANNUAL MEETING

of the

AMERICAN SUGAR CANE LEAGUE

of the

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Meeting Convenes at 2:00 P. M.

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All Members of the League Will Please Consider This as an Official Notice To Attend

Published on the First and Fifteenth of each month
in the interests of the Domestic Sugar Cane Industry

THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

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UP FRONT WITH THE LEAGUE

by A. W. Dykers

Annual Meeting

The Annual Meeting of the American Sugar Cane League will be held in the International Room of the Roosevelt Hotel, New Orleans, on Thursday, September 24th. Notice of this meeting appears on the cover of this issue. It will be the thirty-seventh time that the members of the League have met to select officers and members of the Executive Committee since the Louisiana Sugar Planters' Association, the American Cane Growers Association, and the Producers and Manufacturers Protective Association were consolidated in 1922.

The First meeting of the League was held in the St. Charles Hotel, New Orleans, on September 29, 1922 and Andrew H. Gay, of Plaquemine, was elected President. Mr. Gay served until September 1924 when Ernest A. Burguieres was chosen to succeed him. Mr. Burguieres left Louisiana in 1925 for Florida and in September of that year Stephen C. Munson was elected the third President of the League.

Following Mr. Munson came D. W. Pipes, Jr., of Houma, La., September 1927 to September 1929; C. D. Kemper, Franklin, La., 1929-1931; Percy A. Lemann, Donaldsonville, La., 1931-1933; R. H. Chadwick, Bayou Goula, La., 1933-1935; R. L. Baker, Napoleonville, La., 1935-1937; Edward J. Gay, Plaquemine, La., 1937-1939; W. F. Giles, Jeanerette, La., 1939-1941; Wallace C. Kemper, Franklin, La., 1941-1943; J. J. Shaffer, Jr., Ellendale, La., 1943-1945; George L. Billeaud, Broussard, La., 1945-1947; Murphy J. Foster, Franklin, La., 1947-1949; J. J. Munson, Houma, La., 1949-1951; L. A. Borne, Raceland, La., 1951-1953; J. P. Duhe, Jeanerette, La., 1953-1955; and F. A. Graugnard, Jr., 1955-1957.

Bronier Thibaut of Napoleonville, La. is now completing his second term as the League's President and his successor will be elected at the coming Annual Meeting.

High Yield Awards

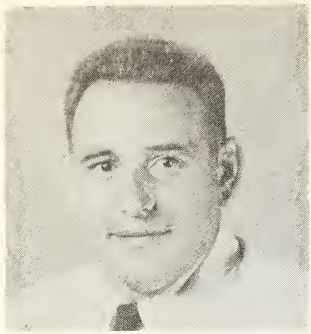
The high yield awards activities, under the auspicies of the Agricultural Extension Service of L. S. U., with the cooperation of the American Sugar Cane League, will take place at

a ceremony preceding the Annual Meeting. The featured speaker on this occasion will be Dudley Smith, Vice President of the Association of Sugar Producers of Puerto Rico. Mr. Smith has been in charge of the Washington office of the Puerto Rican Association since 1943.

King Savoie

The Louisiana Sugar Cane Festi-

(Continued on page 335)



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

On Thursday, September 10 the Variety Subcommittee of the American Sugar Cane League met in conference with the scientists of the U. S. D. A. and L. S. U. to discuss the unreleased varieties in test fields and on increase stations as well as promising new unreleased varieties recently selected.

Each year the Committee examines the data on the unreleased varieties already under test and already in the increase program. Usually the variety or varieties on secondary increase stations are considered first. This year one variety, C. P. 53-1, is on the secondary increase station and the Committee gave it first consideration.

The pathologists rate the variety resistant to mosaic disease, moderately resistant to red rot disease, and very susceptible to stunting disease. Several stools of mosaic infested cane have been rogued from the increase plots at five increase stations. Seed from one increase station has already been discarded because of 4 per cent mosaic in the seed. Mosaic disease has been found at a 3 per cent level at one other increase station. This seed has been rogued and is being watched very carefully. This seed will not be considered for distribution. It is important to point out that these two stations are in areas and in fields where a large amount of mosaic disease is present.

The agronomists rate the variety about as good as C. P. 44-101 in tons of cane per acre and only slightly better than C. P. 44-101 in pounds of sugar per ton. The variety is tolerant to cold in the fall but susceptible to early spring cold weather. It is also an erect growing variety.

The Committee finally decided after a full discussion that the variety should be further tested. The Committee also recommended that it be increased on secondary stations only if the seed can be heat treated against stunting disease.

The Committee then considered the 55 series varieties. Of the group C. P. 55-30 and C. P. 55-14 appear the most promising. They both appear vigorous and have a satisfactory sucrose record. These two varieties are already on test fields and on primary increase stations. The Committee elected to continue testing these two varieties and that they both be transferred to secondary increase stations this fall. Although a few stools of mosaic have been found in both varieties both have a resistant mosaic disease rating at this time.

The Committee then considered the 56 series varieties on test fields and on primary stations. Of this group L. 56-7, L. 56-17, L. 56-25, C. P. 56-21, C. P. 56-30, and L. 55-6 were selected for further testing and increase on primary increase stations. The one 55 series variety in this group was considered in the program at a later time than the other 1955 varieties mentioned earlier.

The 57 series varieties were then considered. Of this group L. 57-2, C. P. 57-25, C. P. 57-37, C. P. 57-71, C. P. 57-98, and C. P. 57-108 showed promise. The Committee elected to introduce these varieties to the test

(Continued on page 335)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Before this report appears in print, a weary, wornout Congress will probably have left Washington. It passed thousands of Bills, which are now public laws of the land, but in so far as agriculture generally and sugar specifically the nine month's long session was fruitless. Agriculture's varied and complex problems are no nearer solution than they were last January.

One prominent member of the House Committee on Agriculture said he wished to goodness farmers would make up their minds what they actually want and then speak up for it. The farm groups which are supposed to represent the farmers of the Nation are as far apart as the poles. They all ask for different things and it is no wonder members of Congress feel baffled, confused and frustrated.

Outside of continuing a few laws and programs which otherwise would have expired this year, strengthening the independent farm credit system and creating a new method for alloting unused cotton acreage farm legislative accomplishments were nil.

The forecast for next year is gloomy unless the farmers of the United States can find a Moses to guide a farm bill through the legislative wilderness. Party lines, which were rather loose this year, will be drawn tighter and tighter as election time nears. Politics will be reared up on its ugly hind legs from the beginning to the end of the next session of Congress. Democrats will be watching Republicans and Republicans will be watching Democrats in committees and on the Floors to see that neither side makes any politician hay out of farm legislation. And, too, history records the enactment of very little worthwhile legislation in a presidential election year.

Congress can not be blamed for its failure to act on sugar legislation. The stage was all set for continuing the present Sugar Act without change early last January but concern over the violent anti-United States attitude of Cuba's one-man revolutionary government prevented consideration of a Sugar Bill this year. Next year it is a MUST because the present law will expire December 31, 1960.

The U. S. Department of Agriculture will issue its 110th annual Year Book, appropriately entitled "FOOD", on September 27. The 1959 edition, according to department officials will be "packed with information on how to eat better and cheaper. Its 65 chapters and 736 pages tell much of what 72 nutrition experts in the U.S.D.A., other federal agencies and 12 colleges know about weight control, food energy, vitamins, proteins, amino acids, fats, carbohydrates, calories, minerals, quality in foods, costs, fads, habits and nutrition programs". Literally — from soup to NUTS.

USDA ANNOUNCES INCREASE IN DOMESTIC SUGAR REQUIREMENT

(*Official Release*)

On September 3rd the U. S. Department of Agriculture announced an increase of 100,000 tons in the estimate of domestic sugar requirements for 1959. This increases total quotas to 9,300,000 tons.

Quota increases for Puerto Rico and the Virgin Islands (areas for which deficits previously had been declared) were reallocated to the mainland areas and Cuba. The approximately 13,000-ton increase in the quota for Hawaii plus an additional 37,000-ton deficit for that area (50,000 tons in total) also was reallocated to the mainland areas and Cuba.

As a result of these changes quotas are increased by 56,031 tons for the Domestic Beet Sugar Area to 2,225,264 tons, by 17,241 tons for the Mainland Cane Sugar Area to 684,735 tons, by 48,827 tons for Cuba to 3,186,316 tons, and by 15,410 tons for "full-duty" countries.

The increase in total quotas was made because of the increasing demand for sugar especially in the Atlantic and Gulf Coast areas.

The Statement of Bases and Considerations for this action follows:

Total sugar quotas for 1959 were established at 9,200,000 tons the 29th of December 1958.

Since May, sugar distribution has been running at a record level. The extreme heat which prevailed this summer in many parts of the country no doubt increased the consumption of soft drinks, ice cream, and other sugar-containing products. More recently the danger of a waterfront work stoppage, beginning September 30, at Eastern and Southern ports has been a factor in the market and should continue to be until the issue is settled. Sugar refiners have been buying and scheduling the receipt o raw sugar to meet continued hig distribution and to build up inven tories.

The tightness of sugar supplies especially for the Atlantic and Gul Coasts, is reflected in current suga prices. Raw sugar prices at Nev York have ranged from a low of 5.7 cents per pound, duty paid, in earl April to 6.50 cents on September 1 Recently increases of 20 cents pe 100 pounds have been announced tha would raise the price of refined suga to 9.55 cents per pound, the highes price since 1920.

To meet the increased needs, tota quotas are increased to 9,300,00 tons.

Deficits in the quotas for Puerto Rico, Virgin Islands and Hawaii were determined and prorated on July 31, 1959. Partially as a result of the increase in total quotas provided for herein, it is determined that the Hawaiian deficit will approximate 150,000 tons rather than 100,000 tons, previously determined. Accordingly, quota deficits of 209,562 tons for Puerto Rico, 3,678 tons for the Virgin Islands, and 150,000 tons for Hawaii are hereby determined, and pursuant to Sec. 204 (a) of the Act 179,085 tons are prorated to domestic areas able to market additional sugar on the basis of the quotas for such areas as established in Sec. 811.2, and 184,155 short tons, raw value, are prorated to such domestic areas and Cuba on the basis of the quotas in effect after proration of the 179,085 tons.

The quotas established in Sections 811.2 and 811.3 were determined in accordance with the specific procedures provided in Sec. 202 of the Act. The amounts of the quotas which may be filled by direct-consumption sugar were established in accordance with Sec. 207 of the act.

UP FRONT

(Continued from page 331)

al and Fair Association has announced that Charles C. Savoie, of Belle Rose, La. will reign as king

his year at the celebrations in New beria, La., on September 25th, 26th nd 27th. Mr. Savoie's title will be King Sucrose XVIII. We printed the program of the Festival and Fair in he September 1st issue of *The Sugar Bulletin.*

—o—

IN THE FIELD

(Continued from page 332)

fields and to the three primary increase stations.

It is hoped that some of these varieties continue to show promise in future tests. The cane breeding, selecting, testing, and increase program is so designed that when a variety proves itself in the test fields enough cane is available on increase stations to make a small amount available to all cane growers.

Growers all over the belt are always invited to visit the two experiment stations, the 12 test fields, the three primary increase stations, and the 48 secondary increase stations to see the new varieties of cane in the program. The County Agent will be happy to direct growers to a nearby increase station or test field. Growers should be interested to see the varieties of the future.

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